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Excavations at Catridge Farm, Lacock, Wiltshire

Alice Forward, Jonathan Last and David Roberts with Sarah Paynter, Ruth Pelling, Jessica Waterworth and Greg Campbell

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SUMMARY
This report describes the results of an excavation at the site of Catridge Farm, Lacock, Wiltshire, undertaken as part of the National Archaeological Identification Survey Pilot Project: West Wiltshire (A350 corridor), following an earthwork survey of settlement remains at the site.

Overlying a medieval agricultural soil were the remains of an early post-medieval structure, probably a farm building, within which had been deposited a large dump of household refuse of 17th century date, including ceramics, glass vessels, metalwork, animal bone and charred plant remains. The report describes the excavated remains and the finds assemblages, including chemical analysis of the glass, and assesses the significance of the results in terms of our understanding of the settlement at Catridge and as a contribution to the archaeology of post-medieval rural households more generally.

CONTRIBUTORS
The excavation was carried out by David Roberts with Alice Forward, Kevin Wooldridge, Paul Braham, Mike Emra, Martyn King, Jonathan Last, Sam Oates and Jonathan Parkhouse with the assistance of Andrew Lowerre. As well as the named contributors, other work was carried out by Steve Baker (glass photography), Matt Canti (coring), Judith Dobie (finds drawings), Angela Middleton (conservation assessment), John Vallender (site plans), Fay Worley (animal bone assessment) and D S Young (diatom assessment).

ACKNOWLEDGEMENTS
The authors are grateful to the owner of Catridge Farm, David Powell, who generously permitted the excavations to take place and provided facilities for use by the on-site team for finds and environmental processing and digital record checking. Mark Bowden provided helpful comments on the text.

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Cover Image: View of the excavation trench at Catridge from the north-west, with the farmhouse in the background (© Historic England)

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INTRODUCTION

As part of the National Archaeological Identification Survey (NAIS) Lowland Pilot project (Last et al 2016) the Excavation and Analysis team of English Heritage (now Historic England) conducted a week-long excavation at Catridge Farm, Lacock, in late June and early July 2014.

The site had been identified by the Aerial Investigation and Mapping team as a previously unrecorded shrunken settlement and therefore of particular interest (Last et al 2016, 97). It covers around 1.7ha and lies in two paddocks to the north of the standing 16th-century farmhouse and associated farm buildings of later date (Fig 1). The remains of the settlement are represented above ground by slight, smoothed, grass-covered earthworks. The excavation formed part of a multi-stranded investigation including earthwork survey (Jamieson 2015), geophysical survey (Linford et al 2016) and building recording of the existing 16th-century farmhouse and its outbuildings (Last et al 2016, 110-15), and this document should be read in conjunction with the other reports.

The core of the settlement at Catridge lies along a well-marked hollow-way aligned north-east to south-west, which runs in front of the farmhouse and continues eastwards to Wick Farm, where further earthworks were identified. In the area of the settlement three tracks run north-westwards off the hollow-way, giving access to a series of crofts and tofts associated with a number of possible building platforms (Jamieson 2015, fig 3).

Historical research has revealed no medieval references to Catridge, though Wick Farm was a manorial estate first documented in 1257-83 (Jamieson 2015, 2). One of the earliest references to Catridge is on the estate map of 1755 where the farm is included in the lands of the Wick estate. The date of the earthworks therefore remained an open question, although a medieval origin seemed likely. Therefore, following the aerial mapping and earthwork survey, an area interpreted as a well-preserved house platform was chosen for excavation (Fig 2). This lay towards the north-western side of the earthwork complex and covered an area of about 70 sq m. Prior to the excavation two research questions were posed:

- During what period(s) was the settlement occupied, and how did the sequence develop?
- What was the character of activity within the building?

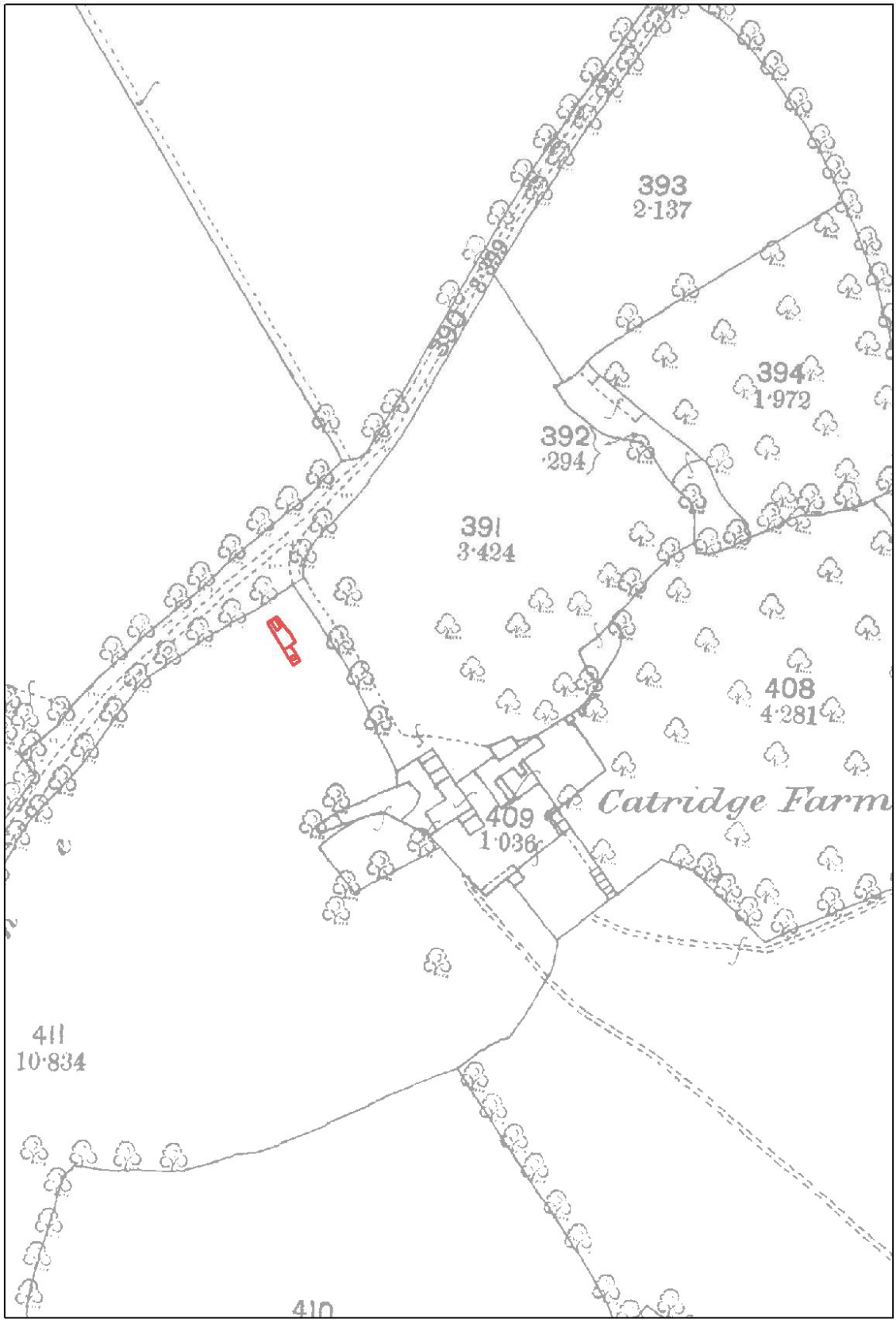

Figure 1 Location of the excavation in relation to the farm buildings as shown on OS 25 inch 1st edn map, 1886

Figure 2 The house platform prior to excavation (photo by J Last, © Historic England)

METHODOLOGY

Excavation

A single trench 18m long and 5m wide was placed over the selected potential house platform (Fig 3). The excavations were carried out in accordance with the English Heritage (EH) Excavation Recording Manual (2006). The work removed the minimum amount of archaeological deposits necessary to meet the research objectives outlined above, whilst attempting to provide a representative sample. At least 15% of linear features such as ditches was excavated, and discrete cut features such as pits and post-holes were fully excavated. All features, grid pegs, levels, sections, small finds and samples were 3D-located.

Data from the excavation was created on site and imported into the project database, which includes a GIS capability allowing the collation of aerial survey, Historic Environment Record (HER)/National Record of the Historic Environment (NRHE), geophysical survey and excavation data to assemble a site synthesis. Data entry and record checking were undertaken at the project's forward operating base, supervised by the project manager David Roberts, site supervisor Kevin Wooldridge and Intrasis superuser Andrew Lowerre.

Finds

A complete finds retrieval policy was implemented for the site. The majority of the processing work took place on site following procedures outlined in the EH Excavation Recording Manual, Module 5: The Care and Recording of Finds (2006, revised 2009). During excavation all metal and glass objects were 3D-recorded if possible and those objects which were not recorded on site, such as those retrieved during residue sorting, and entered the finds processing system, were retrospectively assigned a small find (SF) number. Numbers assigned in the field have five digits while those numbered retrospectively have four.

Environmental sampling

All well-sealed deposits were sampled in order to recover environmental material. In most cases a flotation sample of 40 litres was taken, following the procedures laid out in the EH Excavation Recording Manual (2006) and the Environmental Archaeology Guidelines (English Heritage 2011). Smaller features and some deposits and pit fills required total sampling.

Conservation

Initial care of finds was in line with the principles and techniques outlined in the EH Excavation Recording Manual (2006), First Aid for Finds (Watkinson and

Neal 2001), the Waterlogged Wood Guidelines (English Heritage 2010) and the Waterlogged Organic Artefact Guidelines (Karsten et al 2012). During fieldwork, the project conservator was available to advise on the retrieval of finds, including first-aid conservation.

Following excavation, the project conservator met with the project finds officer to select finds for X-radiography and agreed the conservation strategy. After selection, the metalwork was X-rayed at Fort Cumberland following EH guidance (Fell et al 2006). Computerised X-radiography was undertaken and resulted in a digital X-ray archive.

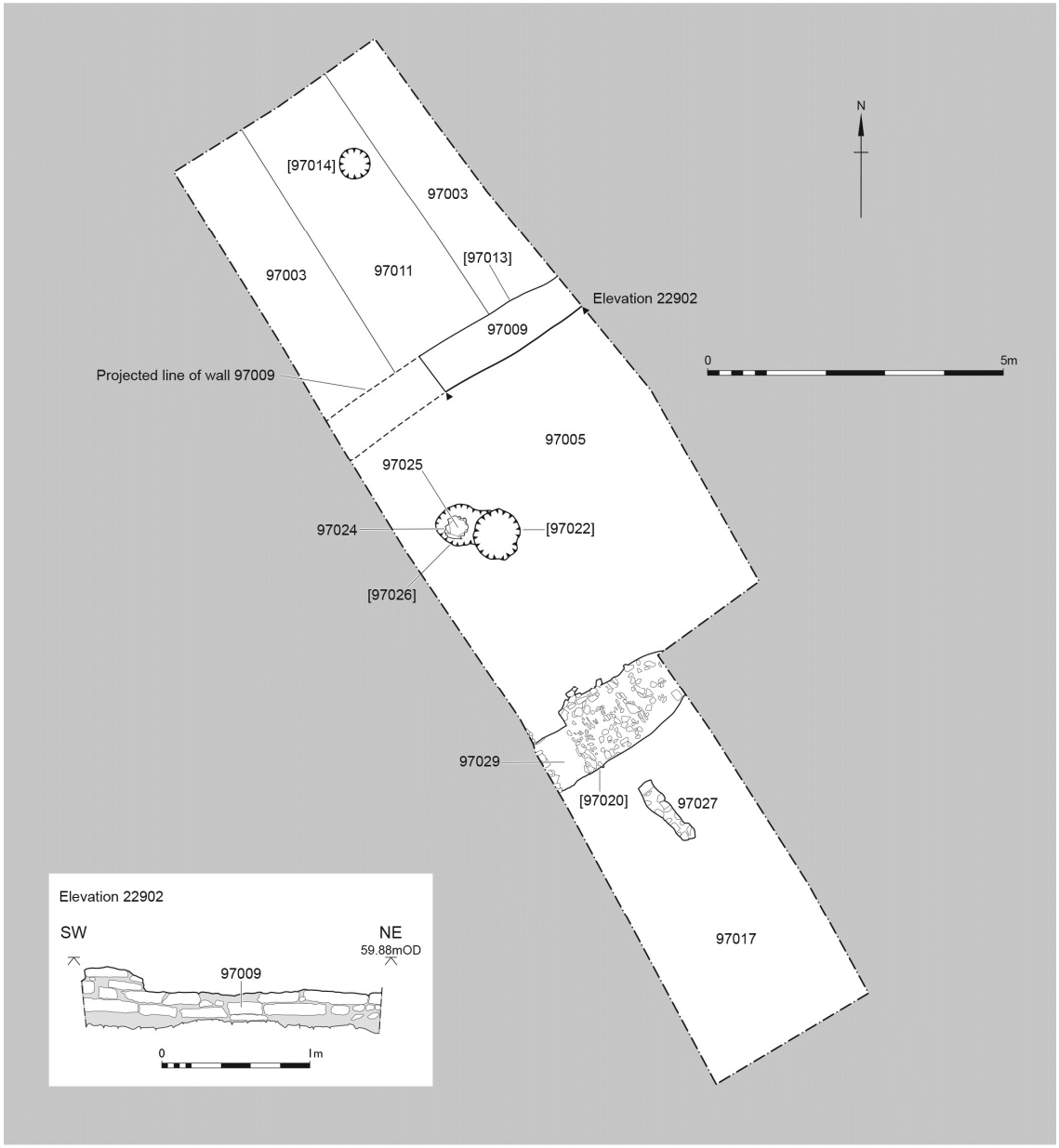

Figure 3 Trench plan (drawing by John Vallender, © Historic England)

EXCAVATION RESULTS

This section presents an integrated narrative of the four phases of activity identified during the excavation and their associated finds. It is followed by detailed specialist reports on each individual finds category.

Phase 1 – medieval/early post-medieval extra-mural activity

The earliest evidence for activity in the trench was a sequence of buried soils, numbered (97011) and (97023), and a circular, shallow scoop [97014]. These soils were cut by the later structure (phase 2). A small assemblage of highly abraded and fragmentary medieval pottery (19 sherds) was retrieved from the contexts in this phase; the sherds were identified as mainly locally produced, with some from Box and Bristol. Whilst animal bone was present in the buried soils the assemblage was too fragmented to be countable. The absence of later finds suggests these contexts are likely to be medieval in date while the nature of the soils and the presence of highly abraded and fragmented ceramic material could be indicative of agricultural manuring.

Overlying the scoop was a sandy silt/loam layer with moderate small stone inclusions (97010), very similar to the earlier soils. The pottery from this context is the most mixed assemblage from the site, ranging from Roman greyware (1st-4th century) to late medieval or early post-medieval South Somerset ware (15th-16th century). The majority of the pottery from this context, however, is medieval in date (76% = 34 sherds), and as with the earlier soil layers this material is abraded and fragmented. There are few countable animal bones from (97010) but cattle and sheep/goat are represented.

Phase 2 – post-medieval structure

Layer (97010) was cut by a wall foundation trench [97013], providing a terminus post quem for the construction of a building on the site. The trench had a sharp profile and a flat base; it was 0.55m wide and extended across the full width of the excavation trench (4.3m). The wall itself (97009) was constructed of limestone blocks, roughly squared, approximately 0.4 x 0.1 x 0.2m in size, bonded with an orangey-brown sandy clay and randomly coursed. The wall survived to a height of 0.42m, though in the western half of the trench it had been robbed (see Phase 4).

To the south, opposite wall (97009), was another wall (97029), which was cut through the substrate (97017) to the cornbrash bedrock. Wall (97029) was not as well preserved as (97009) but had a pitched limestone foundation and a substantial amount of collapsed stone which was recorded separately (97019). The foundation cut [97020] was 1.4m wide, large enough for the wall to have been load-bearing. The wall appeared to end just before the eastern baulk but continued into the western section, measuring at least 4.5m in length. The wall was made of irregular limestone blocks bonded with a clayey material. Animal

bone, medieval and post-medieval pottery, and glass fragments were retrieved from amongst the collapsed wall remains (97019), while post-medieval pottery and window lead came from the wall foundation. The material from (97019) appears to be contemporary with that from the overlying dump deposits and is therefore discussed within phase 3 (below).

To the south of (97029) and (97019) there was a possible third wall (97027). Unlike the other two, this ran north-south and all that remained were foundations of roughly squared chalk rubble. It was also significantly shorter than the others, measuring 1.2m long and 0.25m wide. The foundations were either cut into or sat on the natural silty clay substrate (97017).

In the centre of the trench, cut into the cornbrash, were two features contemporary with the walls: a pit [97022] measuring 0.26m deep and 0.83m wide, and a post-hole [94026] that was 0.25m deep and 0.33m wide. The pit contained one fill (97021), a very dark, greyish brown sandy loam with 40% squared cobbles, 15% rounded gravel and rare charcoal flecks. A fragment of animal bone was found in the fill during excavation, while glass, animal bone, pottery and charcoal were retrieved from sample <57008>. The post-hole contained two fills: post packing (97024) and post-pipe fill (97025). Both of these were 100% sampled, as <57010> and <57009> respectively, and both contained animal bone, pottery and charcoal. There was also a seed of oats from <57010>.

While the function of the building is not clear, it is likely that these two features were directly associated with its use. A number of potential interpretations for the building's function have been suggested and are discussed below.

Phase 3 – post-medieval demolition and dumping

While Phase 2 represents the lifetime of a post-medieval structure, Phase 3 is characterised by a sequence of demolition and dumping that took place after its abandonment. This phase can be attributed to the 17th century from the material assemblage, which is important not only because few stratified rural post-medieval contexts have been reported on in Wiltshire, but also because it can be connected to the occupation of the surviving farmhouse and may therefore be representative of a 17th-century household.

A substantial area of demolition (97006) overlay the wall collapse (97019) described above. Deposit (97006) is described as a rubble layer, a compact sandy silt/loam with frequent stones. There are few finds from this context: animal bone, two iron objects – a hinge pivot (SF 3728) and square-headed nail (SF3729) – and six sherds of pottery, including the base of a Wanstrow dish. These date the context broadly between the 16th and 18th centuries, but the overlying dump deposits provide a more precise date range for this phase.

Overlying the central area of the trench and bounded by walls (97009) and (97029) was a 0.3m deep dumping layer (97004), a brown, compact, loamy

sand with limestone inclusions. This was overlain by another dump deposit (97008), which was also 0.3m deep but slightly different in texture to (97004), comprising a friable sandy silt/loam with limestone fragments and a slightly lighter colour. Though defined as separate from (97004) during excavation the two contexts appear to be part of the same phase of dumping activity. They have a very similar artefact signature with a high number of finds including medieval and post-medieval pottery, animal bone and clay pipe, as well as lead alloy, copper alloy and iron objects. A 40 litre sample <57001> was taken from (97008), and a large number of finds were also retrieved from this.

To the north of wall (97009), deposit (97003) overlay layer (97010). The former was a dark brown, hard, sandy silt/loam, with frequent stones up to 0.1m in size. This context was similar to (97004) with comparable finds. Pottery, glass and iron objects were found during excavation and from sample <57002>.

Despite the similarities there are slight differences between the assemblages from (97004) and (97008). The ceramics from (97008) are less abraded and fragmentary than the rest of the assemblage, including (97004). The pottery from (97008) includes identifiable individual vessels within the context group, as listed in Table 1 below. Two sherds of medieval pottery are the earliest from this context, while the latest is a basal sherd from a Westerwald mug or tankard, a form which at Exeter is generally dated to the late 17th or early 18th century (Allan 1984). However, the majority of the group is represented by vessels recorded as local post-medieval wares, all likely to be 17th-century in date. There are eight identifiable vessels within this fabric group: three pancheons, a dish, two jugs/cups, a cup and a jar. Non-local types include sherds from a sgraffito-decorated dish, likely to be from south Somerset and dating to the 16th or 17th century, and a Frechen flask which is particularly diagnostic due to the decorative medallion which can be compared with similar examples that are dated to the late 17th century.

In comparison, the assemblage from context (97004) is more fragmented, with a greater proportion of body sherds recorded as 'various' (60%) and not identified to a diagnostic form. Despite this, the number of identifiable sherds within the context group has meant that particular vessels are recognisable. Sgraffito-decorated sherds very similar to those recorded in context (97008) are also present in (97004).

Both contexts (97008) and (97004) can therefore be dated to the late 17th century. The assemblages contain a mix of tablewares and more functional wares such as the pancheons (see Table 1). Despite the difference in fragmentation, the similar range of fabrics and the presence of joining sherds from the same vessel in both contexts suggest that the material had come from the same initial place – possibly a rubbish heap – before being removed and dumped in the area of the demolished building.

In addition to the ceramic tablewares, a minimum of four glass vessels were identified in the two large dump deposits, including one with pieces in both contexts (Table 2). These are all typical 17th-century forms and analytical work

has identified that chemically they are likely to pre-date the introduction of lead into the glass-making process, indicating they were probably made before 1670.

A varied group of metal finds was also found in association with the ceramic and glass vessels. The objects were recorded and assigned to a particular functional category as outlined below (Table 3). 'Fasteners and fittings' were most common and 38 of the 51 objects recorded in this category were nails. The other objects within this group have been identified as fittings for doors and furniture. For example, SF3734 is an iron stud, likely to have been a decorative element on a door or piece of furniture. In addition there is a door fitting (SF37002), two swivel rings (SF3732 and SF3733) and four lead window came fragments (SF3705 and SF3758).

Table 1: The number of individual ceramic vessels by form in contexts (97004) and (97008)

Form	97004	97008	Total no. of vessels
Bowl	2	4	6
Bowl/dish		1	1
Bowl/jar		1	1
Chafing dish		3	3
Cup	4	1	5
Cup/bowl		1	1
Dish	3	5	8
Jar	5	7	12
Chamber pot		1	1
Jug	1	8	9
Jug or cup	2		2
Pancheon	7	9	16
Total	**24**	**41**	**65**

Table 2: Glass vessels from contexts (97004) and (97008)

Context no.	SF no.	No. of fragments	Glass colour	Form
97004	3774	2	Non-coloured	Goblet (knop)
97004	3780	1	Non-coloured	Cylindrical beaker
97004	3781	1	Non-coloured	Pedestal beaker or goblet
97008	3777	1	Non-coloured	Plain pedestal flask
97008	3794	1	Non-coloured	Goblet – same vessel as 3794

Table 3: Metal finds by category from contexts (97004) and (97008)

Function	97004	97008 <57001>	97008	Total
Commerce	1			1
Fasteners and Fittings	34	8	9	51
Household	3	1	1	5
Personal Adornment	1	11		12
Tools	3	1	2	6
Transport	1			1
Unknown Function	5	32	4	41
Total	**48**	**53**	**16**	**117**

Apart from an iron hinged pin recovered during excavation of (97004) all the objects recorded under 'personal adornment' were recovered from sample <57001>, taken from context (97008). As a consequence of sampling this layer we retrieved a small but informative group of dress accessories that would have otherwise been missed during hand-excavation. Three copper alloy wire pins, five studs (three iron and two copper alloy), two iron dress eyes and an iron wound-wire dress hook all came from the >4mm residue.. Wound-wire pins are commonly found on post-medieval sites while the presence of hooks and eyes from clothing, although not unusual, is interesting, particularly when considered together with the pins and other household objects in this context as representing a small group of everyday objects from a 17th-century household.

Three of the objects recorded in the 'household' category are associated with vessels. Two of these (SF3711 and SF3712) are possibly iron fittings from buckets or similar vessels which had wooden components. An iron handle was also recovered (SF3718). Two smaller items, a needle made of iron and a small bone handle (paralleled from excavations in Norwich), demonstrate the range of objects used by the household at Catridge in the 17th century. Under the 'tools' heading, four wedges (used in carpentry) were recovered, while associated with 'transport' was a small iron ox-shoe or horseshoe.

The majority of the objects recovered are not diagnostic to a particular date, and certainly the nails, wedges and other fixtures could not be used on their own to date or phase a site or deposit. There are, however, a number of objects – the dress fittings and the bone handle – which have direct parallels to other sites of a similar date. In addition to these, a copper alloy Nuremburg jetton of Hans Krauwinckel II, generally dated from 1586 to 1635, and recorded under the 'commerce' category, was found within these deposits.

The majority of the faunal remains from the site derive from contexts (97004) and (97008) which together yielded 83% of the countable specimens, with cattle, sheep and pig all represented. Plant remains were also present in sample

<57001>, which produced barley grains as well as numerous charcoal fragments.

Phase 4 – later post-medieval or modern activity

Cutting through dumping layer (97004) was robber trench [97007]. As mentioned above, the trench cuts the northern wall (97009), and the stone from the wall at this point had been completely removed. The fill of the robber trench (97030), which was not fully excavated, had a distinctly lighter colour and was much less artefactually rich than the neighbouring dumping deposits (97004) and (97003), the finds comprising four sherds of late 16th to early 17th century pottery and some animal bone (including an amphibian bone).

Also cutting through the rubble and demolition layers was a field drain [97028]. The fill of the drain was removed as part of the general cleaning and was indistinguishable from deposit (97008) during excavation although recognised in the section as darker and siltier. The drain was also seen to truncate the cornbrash, indicating the extent of disturbance in this area.

Cutting rubble layer (97006) was a shallow pit [97015], 1.4m in diameter and 0.2m deep. The fill (97016) was a compact, very dark grey, sandy silt/loam, with common cornbrash gravel inclusions. No finds were retrieved from the fill during excavation but a sample <57006> contained cereal grains and charcoal.

Overlying the drain were the subsoil (97002) and topsoil (97001). They are differentiated by texture, the topsoil described as silty clay and the subsoil as sandy clay, both yellowish brown in colour. Finds were retrieved from both, including pottery and iron objects.

SPECIALIST REPORTS AND DATA

The ceramic material *by Alice Forward*

In total 785 sherds, weighing 6406.7g, were retrieved from the excavations at Catridge Farm. The majority of the assemblage is post-medieval in date, although most contexts contained small numbers of residual medieval sherds.

Methodology

The pottery was recorded in accordance with Barclay et al (2016), having been sorted into different ceramic fabrics and vessel forms and quantified by weight in grams and sherd count. Each Type in the site-specific fabric series is numbered individually and has been cross-referenced to the Cirencester Type Series (Ireland 1998). Those fabrics which have been identified at Cirencester are linked by the unique numerical code prefixed by TF as well as its common name. Table 4 lists and describes all the fabric types present from the excavations at Catridge, linking them to the Cirencester fabric series and providing their common names and any references, though 174 sherds (weighing 597.7g) were not identified to a specific fabric due to their high levels of abrasion.

Table 4: Catridge ceramic fabric series

Fabric	**Common name**	**Description**	**Date**	**Total sherd count and weight (g)**	
1	Box (Vince 1984)	Limestone-tempered	12th-13th	63	597.7
2	Med Q	Fine quartz and micaceous clay, little additional temper	13th-14th	1	389.3
3	Med L	Limestone and quartz clay matrix, occasional ferruginous inclusions and rare large quartz grains	13th-14th	21	3.6
4	Med Fine	Very fine clay matrix, small quartz grains and mica. Rare coal-like burnt-out frags. No apparent temper. Hard fired.	13th-14th	4	105.1
5	Med AQ	Mixed clay matrix, less fine with larger, angular quartz and ferruginous inclusions	13th-14th	27	16.5
6	Med Coarse	Coarse fabric with quartz (some polished), occasional limestone and ferruginous inclusions	13th-14th	14	87.6
7	Med Dense	Well sorted quartz clay matrix, but dense not fine	13th-14th	4	64.2
8	Ham Green jar Cirencester ref TF206	Fine clay with medium sorted quartz inclusions	E-M13th	13	41.5
9		Soft-fired clay with ferruginous and quartz inclusions		1	40.2
10	Surrey WW Cirencester ref TF222		E17th	6	3.2

12	Bath A Cirencester ref TF240	Fine micaceous and quartz clay	12th	9	9
13	Roman Greyware			1	38.3
14	Ashton Keynes (early) Cirencester ref TF230	Heavily, but well sorted quartz-tempered fabric with occasional calcareous inclusions	15th-16th	2	2.1
15		Fine clay with occasional quartz		1	31
17	Nash Hill Ware Cirencester ref TF219		L13th-14th	1	9.7
18	Late Med/Early PM		15th ?	11	105.2
19		Heavily sanded clay	17th	6	226.8
20	PM local ware	Very fine clay with occasional burnt out black inclusions	16th-18th	308	3004.7
21	Malvernian	Orange to pale orangey-pink, fine with occasional whitish rock frags	14th-E17th	19	201.8
22	Wanstrow?	More likely Wanstrow than Donyatt as no large ferruginous inclusions (Allan 1984; Good 1987)	16th-17th	77	811
23	Frechen stoneware Cirencester ref TF216		16th-17th	7	295.1
24	Westerwald stoneware Cirencester ref TF217		17th-18th	1	15.8
25		Finely sanded clay matrix with limestone and what appear to be sandstone clay pellets	16th-17th	1	56.3
26	East Somerset Narrow Quay Fabric 17	See Good 1987	15th-16th	5	28.9
27	Poss. Cirencester ref TF250	Highly micaceous, fine fabric, with occasional larger quartz inclusions, wheel-thrown, with green external glaze; the clay has fired to a buff/orangey pink	15th ?	1	5
28		Very clean clay matrix, little large quartz but occasional ferruginous inclusions	16th-17th	5	141.4
29	Tin glazed	Bristol tin-glazed	18th-19th	2	17.5
30	Unidentified sherds		12th-19th	174	597.7

Phase 1

(97011) Total number of sherds: 18 (27.9g)
Box fabric was retrieved from the buried soil both by hand collection during excavation as well as from sample <57005>. The fabric is represented by a small group of seven sherds, with the hand-collected sherds less abraded and larger. Ham Green Ware (five sherds) was also retrieved from this context and these too are highly abraded and fragmentary. Six other sherds were identified as medieval but are otherwise unidentifiable, with an average weight of 0.8g.

(97012) Total number of sherds: 1 (11.9g)
One sherd from a Ham Green jar was found in the fill of scoop [97014].

(97010) Total number of sherds: 49 (174g)
The foundation cut [97013] for wall (97009) cuts deposit (97010), the pottery from which is therefore useful for understanding the date of the building. The 37 sherds from (97010) are medieval in date with the latest group dating to the 15th century.

Phase 2
(97021) Total number of sherds: 5 (17g)
A small group of fragmented sherds was retrieved from pit-fill sample <57008>; two body sherds in Box fabric and three sherds of Fabric 20, two of which represent the rim of a dish.

(97024) Total number of sherds: 1 (2.4g)
One small body sherd was found in sample <57010> from the packing of the post-hole, identified as Fabric 20 (16th to 18th century in date).

(97025) Total number of sherds: 1 (1.5g)
One body sherd identified as Surrey White Ware from a small cup with both external and internal glaze came from the post-pipe.

(97029) Total number of sherds: 1 (1g)
A small sherd of Box fabric came from the wall.

Phase 3
(97003) Total number of sherds: 148 (747g)
This dump deposit contained a particularly mixed and abraded pottery assemblage that ranges in date from the 12th to 17th centuries. The medieval pottery present in this context includes Box Fabric as well as Ham Green and Nash Hill Wares.

(97004) Total number of sherds: 326 (2593g)
The largest group of pottery from the site came from this dump layer. Unlike (97003) this layer, whilst containing some medieval sherds, is for the most part represented by post-medieval pottery dating between 1500 and 1700. The majority of the context is represented by Fabric 20 (210 sherds: 21242.2g) – described as a fine fabric with burnt out inclusions – which is likely to be a locally made post-medieval fabric. A parallel for this has not been found though the forms represented within this fabric are typical of post-medieval ceramics from the Somerset repertoire. Seven pancheons or large bowls dominate the forms within this group, along with three chafing dishes. Somerset wares are also present within this group, with 46 (470g) Wanstrow sherds representing a connection to the East Somerset pottery market region.

(97006) Total number of sherds: 6 (31g)
The sherds from this rubble layer are particularly abraded. One identifiable sherd was a Wanstrow (Fab 22) basal sherd, likely from a dish, glazed internally with a greenish brown glaze. This provides a date for the context between the 16th and 18th centuries.

(97008) Total number of sherds: 141 (2283g)
The ceramics from dump deposit (97008) are less abraded and fragmentary than the sherds from the rest of the assemblage, including context (97004). The pottery includes identifiable individual vessels such as the large dish, otherwise known as a pancheon, shown in Fig 4.1. The earliest pottery from this context is two medieval sherds, while the latest vessel is represented by a basal sherd from a Westerwald mug or tankard, broadly dated from the late 17th to 18th century. A Frechen flask is also particularly diagnostic due to the decorative medallion (Fig 4.2) which can be compared with similar examples from Exeter (Allan 1984) and Norwich (Jennings 1981) that are dated to the late 17th century.

The majority of the group is represented by vessels recorded as post-medieval, glazed Fabric 20, all likely to be 17th century in date. There are eight identifiable vessels within this fabric group: three pancheons, a dish, two jug/cups, a cup and a jar. Sherds from a sgraffito-decorated dish, likely to be from south Somerset, were also found in context (97008). The production date range for this is 16th–17th century, consistent with the dating for the other vessels.

(97019) Total number of sherds: 24 (253.6g)
Whilst the group of pottery from the collapsed wall is relatively small in comparison to the larger dumping layers (97004) and (97008), there are a few identifiable vessels: a chafing dish in Wanstrow fabric (eight joining sherds) and the base from a dish with internal green glaze, in Fabric 20. A residual sherd of medieval pottery (Fab 6) also came from this context but the chafing dish and green-glazed dish indicate the context is post-medieval in date (c 1500-1700).

Phase 4
(97001) Total number of sherds 58 (238.1g)
The majority of the sherds from the topsoil are highly abraded and fragmentary. For the most part the pottery can be dated to the mid-15th to 17th centuries. One sherd of earlier medieval pottery, identified as Box (Fab 1), was also retrieved.

(97002) Total number of sherds 2 (14.2g)
Two sherds of medieval pottery were retrieved from the subsoil. One has been identified as Box fabric (Fab 1) and the other as Nash Hill ware (Fab 17). Both sherds are from jars. Their dating spans a 300 year period with the Box sherd dating from c 1100 to 1300 and the Nash Hill sherd from c 1200 to 1400. It is notable that no other pottery, in particular no post-medieval pottery, was retrieved from this context.

(97009) Total number of sherds: 4 (12.8g)
Small unidentified body sherds came from the robbed wall.

Discussion
The assemblage is highly abraded and fragmented. The pottery is mostly post-medieval in date, indicating that the majority of the excavated archaeological features can be dated to the 17th century (see Table 5).

Table 5: The date range represented by the pottery in each context and the proposed Terminus Post Quem (TPQ)

Context	Date range	TPQ	Total sherd count
97001	1100-1700	17th	58
97002	1100-1400	13th	2
97003	1200-1700	17th	148
97004	1100-1700	17th	326
97006	1500-1700	17th	6
97008	1100-1900	17th	141
97009	1500-1700	17th	4
97010	1200-1600	16th	49
97011	1100-1300	13th	18
97012	1200-1250	13th	1
97019	1200-1700	17th	24
97021	1100-1600	17th	5
97024	1450-1600	17th	1
97025	1600-1650	17th	1
97029	1100-1300	13th	1
Total			**785**

Contexts (97008) and (97004) are of particular note. Phasing has identified the two contexts as being part of the same dumping event, containing a mix of tablewares, such as the Frechen flask, the Westerwald mug or tankard, sgraffito dish and three chafing dishes, and more functional wares such as the pancheons.

There are notable differences, however, between the two ceramic groups. Those from (97008) are less abraded and fragmentary than the sherds from the rest of the assemblage, including context (97004). Consequently there are more joining sherds within the material from context (97008) but importantly, there are cross-context joining sherds found in these deposits which support the suggestion that the two contexts are contemporary.

Although the group of medieval sherds is mostly residual in post-medieval dumping layers, their presence at the site indicates medieval domestic activity in the vicinity of the excavation and also contributes to our knowledge of medieval pottery in Wiltshire. In particular, contexts (97003) and (97004) contain an interesting group of medieval pottery (28 and 23 sherds respectively) which can be paralleled with sherds identified by Alan Vince from excavations at Box and subsequently known as Box Fabric B (Vince 1987). Ham Green and Bath A as well as other medieval fabrics were also identified in the assemblage from Catridge.

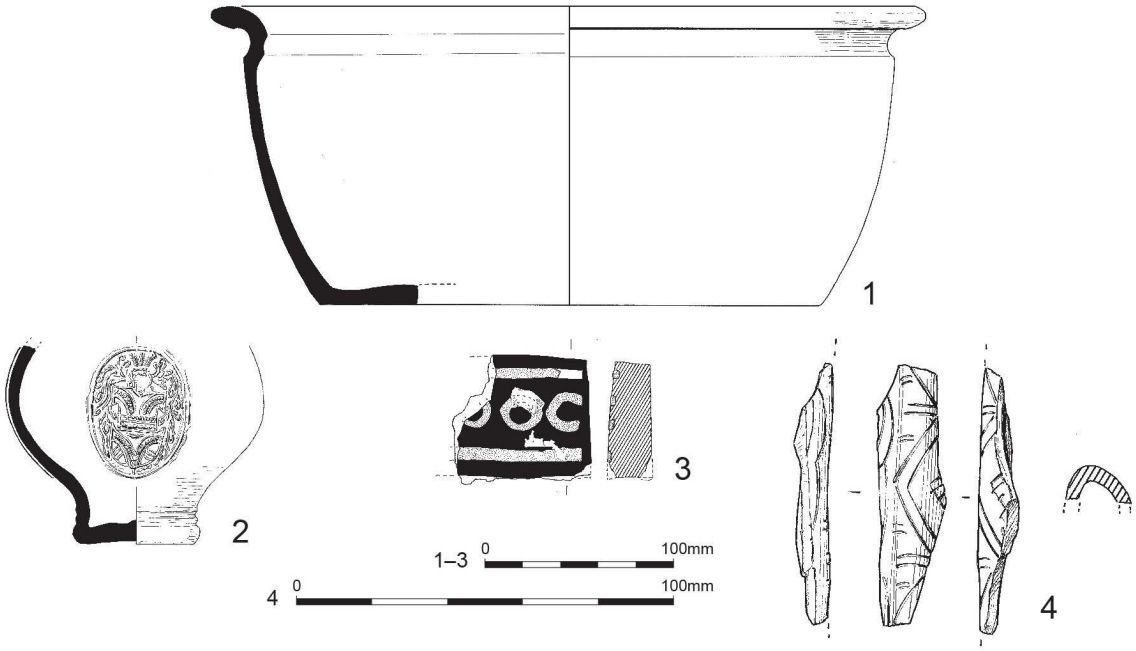

Figure 4 Selected finds (drawings by Judith Dobie, © Historic England)

The ceramic building material *by Alice Forward*

Part of a rectangular border floor tile (Fig 4.3), the only example from this excavation, was retrieved from context (97003). It is decorated with impressed and slipped circles within parallel lines and glazed. The tile can be directly compared with those retrieved from excavations at the Lacock kiln site (McCarthy 1974, 142 and 144) and Cirencester (Vince 1998, 145 and 152) which are dated to the late 13th or early 14th century. A fragment of late medieval ridge tile was retrieved from (97010). It is a triangular finial, with green external glaze.

The floor and ridge tiles, as with the pottery, are re-deposited, but it is clear from their presence that at one point it is likely that there was a house nearby, wealthy enough to have had a decorative tiled floor and roof. The floor tile and the roof finial were both retrieved from the northern end of the trench, contexts (97003) and (97010) respectively, rather than from the large deposits (97004) and (97008).

Small finds *by Alice Forward*

In total 245 objects were recorded as small finds (Table 6). Metal objects were X-rayed by Angela Middleton and the glass was photographed by Steve Baker and analysed by Sarah Paynter (see below).

Iron objects made up the largest category (60%), with nails accounting for a high proportion of these (47% = 69 fragments and complete nails). The assemblage is very much characteristic of a domestic group of objects which

includes dress accessories as well as glass vessels (reported on separately below). Many of these objects can be identified as 16th or 17th century in date, complementing the ceramic assemblage.

Table 6: Small finds quantification

Material	Small find records	Number of fragments
Iron	56	147
Cu alloy	11	11
Lead	7	9
Glass	15	76
Ceramic object	1	1
Worked bone	1	1
Total	**91**	**245**

Identifications and the 'simple name' for each small find were refined in accordance with Goodall (2011) and Egan (2005). The results are detailed below, primarily by functional category but further divided by simple name and material.

Personal Adornment

A number of objects identified as dress fittings were found due to the sampling and wet sieving: an iron dress hook and two iron dress eyes, four copper-alloy wound-wire pins, five copper-alloy and iron dress studs, and two copper-alloy aglets.

Aglets (or lace-tags)

SF3702 (20.4mm long, 2.2mm wide, 0.1g, 97003) – copper-alloy aglet made by sheet copper rolled in to a centre point. There is a small hole pierced on the front, at the top of the aglet. The end comes to a rounded point.

SF37003 (31.4mm long, 2.5mm wide, 0.3g, 97003) – copper-alloy aglet made by sheet copper rolled in to a centre point.

Dress eyes

SF3760 (13.1mm long, 9.5mm wide and 8.3mm thick, 0.8g, <57001>) – iron wire dress eye, to go with hook SF3759. The eye is made from one strand of wire 2.2mm thick. At one end is a closed loop. The other end has been bent through 180 degrees, facing the loop which is 9.4mm in diameter. The wire appears to have snapped as it straightens out from the bend and is shorter than the example recorded as SF3761.

SF 3761 (22.3mm long, 11.4mm wide, 8.4mm thick, 1g, <57001>) – iron wire dress eye. The wire is 2.8mm thick. A closed loop is formed and at the point where the end meets the strand in the loop the remaining strand is bent through 180 degrees, the remaining strand running parallel to the hole of the closed loop. This is likely to be the partner to something like dress hook SF3759 and is a similar object to SF3760.

Hinged pin
SF3727 (37.4mm long, 3.4mm thick, 1.9g, 97004) – this is an iron hinged pin, probably associated with a buckle frame. The pin is narrow with a small looped end and the remains of an iron cross bar still within the loop. The opposite end has a larger loop and what appears to be an additional loop or corroded piece of metal adhered to the loop.

Dress studs or tacks
SF3757a (8.7mm long, 5.9mm diameter, <57001>) – small iron stud or tack.

SF3757b (9.6mm long, 5.1mm diameter, <57001>– small iron stud or tack.

SF3763 (14.3mm long, 1.6mm thick, 7.3mm diameter, 0.5g, <57001>) – small copper alloy stud or tack.

SF3764 (12.4mm long, 1.6mm thick, 8.1mm diameter, 0.6g, <57001>) – small copper alloy stud.

SF3767 (9.7mm long, 1.9mm thick, 5.1mm diameter, 0.1g, <57001>) – small iron stud or tack.

Wound wire pins
SF3765 (22.3mm long, 0.9mm thick, 0.1g, <57001>) – complete small copper alloy dress pin.

SF3771 (19.6mm long, 0.6mm thick, 0.1g, <57001>) – copper alloy dress pin.

SF3772 (19mm long, 0.4mm thick, 0.1g, <57001>) – copper alloy dress pin.

SF3773 (19mm long, 0.3mm thick, 0.1g, 97004) – copper alloy dress pin.

Dress hook
SF3759 (13.1mm long, 11.6mm wide, 5.4mm thick, 0.5g, <57001>) – iron wire dress hook made of two thin strands of wire. Each wire creates a loop and the two wires join on the inside of the loop, straightening out before being folded over 180 degrees to create the hook. These are typical of 16th-17th century dress.

Commerce
SF37001 (25.8mm diameter, 0.8mm thick, 97004) –a complete but partly worn copper alloy Nuremburg jetton of Hans Krauwinckel II, generally dated from 1586 to 1635 (Mitchiner 1988). Rose/orb type with the reverse legend DAS WORT G[OTES] BLIBT EWICK (God's Word remains eternal) circling an imperial orb within a tressure of three arches and three angles. The obverse carries the legend HANNS KRAVWINK[EL I]N NVRNBE surrounding three crowns alternating with three Fleur de Lis. Similar examples are illustrated by Mitchiner (1988, 435–6). The Portable Antiquities Scheme database includes around 20 of this type with the same reverse legend, mainly from the east of England (Norfolk, Suffolk, Yorkshire and Kent).

Gaming and leisure

SF3710 (97008) – a near-complete clay pipe bowl. The bowl is a Gloucester type 2a (Peacey 1979, 46-7), likely to be a Bristol pipe, dating from 1630–1660. There is a small fragment broken from the rim of the bowl but the heel of the pipe is complete and the beginnings of the stem are also still attached. It is not particularly clear whether there is a maker's stamp on the heel of the clay pipe but it does look as though someone did try to imprint something there. There is beading round the external surface of the rim. The bowl at its widest is 18.1mm in diameter and the stem is 9.4mm. From the heel to the bowl rim the pipe is 28mm long.

Household

There are five metal objects within this category, three of which are associated with vessels, and one of worked bone.

Possible iron bucket fittings:

SF3711 (66.3mm long, 40.2mm wide and 11.2mm thick, 97004)

SF3712 (51.8mm long, 51mm wide and 8mm thick, 97004)

Other finds:

SF3701 (34.9mm long, 8.6mm wide and 2.4mm thick, 97004) – a small fragment of worked bone, identified as a knife handle (Fig 4.4). It is made from a sheep/goat metatarsal. The fragment is decorated with repeating parallel lined lozenges, the centre of which contains hachuring. A series of three, parallel double-lined incisions decorate the space between the lozenges. Another repeated pattern, more curved in nature, occurs on the other edge to the lozenge pattern. However the bone fragment has broken at this point and any further detail has gone. The handle fragment can be paralleled by a similar example found in Norwich (Goodall 1993, 122–3) where the decoration and the type of bone used are similar to the example here.

SF3715 (140mm long, 14.7mm wide and 9.4mm thick, 97001) – a blade from an iron knife, most likely to be 19th century in date.

SF3718 (71.2mm long, 65.6mm wide, 11.4mm thick, 97008) – a copper alloy handle, probably from a large pitcher.

SF3768 (6.6mm long, 3.9mm wide and 1.8mm thick, <57001>) – the eye from a copper alloy needle.

Tools

SF3721 (97008), SF3745 (three recorded under this number, 97004), SF3749 (97008) and SF3752 <57001> – six iron wedges

Fixtures and fittings

There are 31 records (mostly iron) recorded within this category, but artefact numbers are higher due to many examples of more than one object per record (entirely appropriate for miscellaneous structural ironwork).

This category includes an assemblage of 69 iron nails or parts thereof. For the most part they are typical flat-headed, handmade nails, although there are a domed-head nail (SF3769) and a square-headed nail (SF3750), which can be further described and attributed to more specific nail typologies (Goodall 2011, 163–6).

Included in the category are iron fittings which could be from either furniture or structural fixtures, such as doors. This includes studs SF3734 (97008) and SF3736 (97004). As an example, SF3734 is sub-circular in shape with an integral rivet on the reverse that is square in section and projects at 90 degrees. The rivet is 17.2mm in length, 6.7mm wide and 3.5mm thick. The edge of the stud is not uniformly circular; at the point where the rivet projects the edge is flatter and the opposing side is rounded. From the flatter side the edges curve round before meeting the curving top, creating a trefoil shape.

SF37002 (139.4mm long, 93.5mm wide and 6.4mm wide, 97004) – a large door fitting.

SF3728 – a hinge pivot from (97006).

SF3762 (78.4mm long, 14.4mm wide and 5.2mm thick, <57001>) – a decorative strap fragment likely to have been attached to a casket or furniture.

Window lead was retrieved in small quantities from two contexts, (97004) and (97029) (SF3705, SF3706 and SF3758).

Agricultural tools
SF3716 – a link from an iron chain.

Transport
SF3722 (80.6mm long, 35.7mm wide and 4.4mm thick, 97004) – an iron horseshoe with four square nail holes still in place on one edge. It is particularly small and could be an ox-shoe rather than a horseshoe.

Unknown
This category contains 16 records. Two are for iron fragments retrieved from sample residues, SF3755 (>4mm residue) and SF3770 (2-4mm residue), both from sample <57001>. A third record from the same sample (SF3770) is a fragment of lead. There are also two records of copper-alloy sheet fragments, SF3703 and SF3704, ten records of unknown and unidentifiable iron fragments, and four of lead.

Summary
The objects recorded within the small finds category are all likely to be post-medieval and contemporary in date with the ceramics. The group is mostly represented by household items rather than tools or agricultural equipment, suggesting that the material comes directly from the house. In addition, the items of personal adornment, the aglets, pins and dress fittings are an

interesting group of objects particularly as they were retrieved from a small area. It suggests that items of clothing had also been discarded alongside the glassware and ceramics.

Glass *by Alice Forward*

A small assemblage of post-medieval glass, 78 fragments weighing 49.7g, was retrieved during excavations at Catridge. The glass is mostly 17th century in date and both window and vessel glass are represented. The vessel forms were identified using the typologies defined in Willmott (2002). Despite the small size of the assemblage six fragments, probably from four vessels, are identifiable as potentially imported glassware which is not typical for rural settlement sites, and were submitted for chemical analysis (see below).

Vessel forms

Beaker
SF3780 (97004) – a basal fragment of non-coloured glass from a cylindrical beaker which comprises a solid applied base-ring with rigaree decoration. The point at which the body would have joined the base is now broken. The fragment is degraded with iridescent surfaces but it appears colourless in the broken sections.

Goblet
SF3794 (97008) – a rim fragment of non-coloured glass from a goblet, likely to be one of Willmott's (2002, 57) bowl types a-c as the rim and body are straight rather than out-flaring in form.

SF3774 (97004) – two joining knop fragments of non-coloured glass from a knopped-stem goblet, probably the same as SF3794.

Pedestal flask
SF3777 (97008) – a basal sherd of non-coloured glass from a plain pedestal flask. The base is folded and rises at an acute angle. The diameter of the base (240mm) also suggests that this is a flask rather than a smaller drinking vessel.

Window glass
There are 27 fragments of window glass (Table 7), mostly green in colour.

Table 7: Window glass

Context no.	Sample no.	Small find no.	No. of frags.
97001		3783	3
97003		3792	1
97003	57002	3785	1
97004		3779	11
97008		3778	3
97008	57001	3790	8

Conclusions

The majority of the glass comes from contexts (97004) and (97008), the demolition and dumping layers, and therefore forms an important element of the household waste represented by the other material from these contexts. The date range for the glass supports that provided by both the pottery and small finds. The glass is highly fragmented with most fragments having weathering and iridescence, with the exception of one vessel fragment that is severely weathered and is now brown and completely opaque; this is likely to pre-date the mid-16th century.

Chemical analysis of glass *by Sarah Paynter*

Introduction

Five fragments of glass were selected for further investigation because high-status glass tableware from rural sites of this period has been little studied. The fragments are from the dumping event (contexts 97004 and 97008) and are all beakers, goblets or flasks, as shown in Fig 5 and described above.

Background

A range of raw materials were used to make glass in the past, depending on the technology and resources available at a particular time, and so the final glass composition changes chronologically. The sequence of compositional changes in Britain has been determined in detail for some periods and types of finds, eg vessels or windows, by combining analysis of well-dated glass finds, typological studies and historical accounts. In some situations, it is also possible to identify the products of industries in particular areas, or even certain glassworkers (Dungworth 2012; Dungworth and Brain 2009; Meek et al 2012; Mortimer 1996). The glass types of particular significance to this report are known as HLLA glass, mixed-alkali (M-A) glass, *Cristallo*, *Façon de Venise* and lead crystal glass.

Most glass used in Britain prior to the Norman Conquest was made elsewhere and imported, but by the early 2nd millennium AD a local industry had developed making glass from plant ashes combined with sand. Initially the plants chosen were species like bracken, which produced potassium-rich ashes and made a greenish glass that tended to degrade badly over time. In the 15th century, however, glassworkers from Venice and the surrounds developed a method for making colourless glass. The area became famed for its *Cristallo*, a colourless glass made using the sodium-rich ashes of salt-tolerant plants imported from the Levant (Verità 1985; Verità and Zecchin 2009). The glassworkers purified their ashes by boiling, filtering and recrystallising, to remove any impurities that would have discoloured the glass, and manganese oxide was added as a decolouriser. *Cristallo* glass was highly valued and exported widely, and the technology was closely guarded, but eventually some Italian glassworkers took the secret with them to establish glassworks elsewhere in Europe. These glassworks made glass in the Venetian style, known as *Façon de Venise*, but used alternative raw materials, such as barilla plant ashes from Spain (de Raedt et al 2001).

Figure 5 Glass selected for analysis. Top row, left to right: SF3774, SF3777; middle: SF3781; bottom row: SF3780; SF3794. (photos by Steve Baker, © Historic England)

Glassworks using Italian technology were established in the Low Countries and the Rhineland then, in the later 16th century, glassworkers from continental Europe arrived in Britain, including some with the skills to make Venetian-style glass, and significantly influenced the glass industry. The standard greenish glass made by these continental glassworkers used novel technology, utilising

ashes from hardwood species like oak and beech, which contained more calcium. This made a more durable glass that replaced the potassium-rich variety of the centuries before; this more calcium-rich glass is sometimes called HLLA (high lime low alkali) glass (Mortimer 1993a; 1996).

The 17th century saw further innovations in glass production. The use of wood-fuel in glass furnaces was banned in England in 1615, leading to the redesign of the furnaces and relocation of the industry to make use of coal. In Ireland, wood fuel was not restricted until 1641 and the intermediate period saw the Irish industry thrive (Thorpe 1929). A book on glassmaking was published in Florence, but translated into many languages making the technology widely available, and later in the 17th century varieties of lead crystal or flint glass were developed.

Sometime in the 17th century, glassmakers also began to use seaweed ashes in glass production, as a source of the alkalis, sodium and potassium oxides, and so the resulting glass is often referred to as mixed-alkali (M-A). The use of seaweed also resulted in diagnostically higher levels of strontium in the glass and Dungworth et al (2006) identified glass with these traits at Silkstone glasshouse, Yorkshire, dating to around 1660. Glass with elevated sodium concentrations has also been reported from a number of glassworks in the early 17th century, including Haughton Green, Denton, and Bickerstaffe, Lancashire (Hurst Vose 1994; Hurst 1968), and to a lesser extent Kimmeridge (Crossley 1987). Strontium data are only available for one of these sites and do not seem high, so other potential sources of the higher soda (such as *barilla* ashes) cannot be discounted. Nonetheless Merrett's description of the kelp ash industry in the context of English glass production, in 1662, suggests the practice was well established by then (Cable 2001), and Turnbull (2001) highlights an application by James Ord, a glassmaker, for the sole rights to burn and prepare kelp in Scotland as early as 1621. So whilst mixed-alkali kelp glass only came to dominate in window production from about 1700–1835, kelp may have been added in small amounts to vessel and window glass in the first half of the 17th century.

By the end of the 17th century, the colourless glass made in Britain was of such quality that it was favoured over the finewares imported from continental Europe (Dungworth and Brain 2009; Godfrey 1975; Mortimer 1993a), and the Venetian industry went into decline.

Methods

Very small chips of glass (a few mm in size) were removed from each glass fragment and mounted in epoxy resin, polished to a 1µm finish, carbon coated and analysed using SEM-EDS (scanning electron microscopy with energy dispersive spectrometry). The SEM is an FEI Inspect and the EDS is an Oxford Instruments system. The conditions used were 25KV and 4.5nA. The detection limit is around 0.1wt% for most elements rising to 0.3wt% for Sb_2O_5, SnO_2 and BaO. SrO was determined qualitatively using a Bruker M4 Tornado XRF spectrometer, under a vacuum with conditions of 200mA and 50kV (the result

for SF3777 may be an underestimate because the mounted sample is thinner than ideal).

Results

None of the fragments is a lead glass, or contains any detectable lead. Colourless lead glasses typically contain in excess of 15wt% lead oxide, and are noted in Britain from the 1670s. Even in other types of glass from this time, around half of the analysed samples contain small traces of lead (Dungworth et al 2006; Dungworth and Brain 2009), presumably from recycling of lead glass and the more common use of lead compounds in glassmaking. The absence of any trace of lead in the Catridge glasses suggests that they may pre-date the 1670s.

The five Catridge samples are of three different types of glass. Two of them (SF3774 and SF3794) are colourless glass with very little weathering. This glass was made from sodium-rich plant ashes, indicated by the high sodium levels and a few weight percent each of potassium and magnesium oxides. The glass has been decolourised using manganese oxide. The compositions of these fragments are so similar that they may be from the same vessel.

Another two fragments (SF3777 and SF3780) are weakly green coloured with iridescent weathering crusts. These fragments are made from a mixed-alkali glass, containing several weight percent of added sodium oxide and slightly elevated strontium. The analyses for these two glass fragments are again very similar to one another, although not exactly the same (Table 8), so these may be fragments from the same glass (imperfectly mixed) or from a pair of related vessels.

The final fragment (SF3781) is a small piece, with a green tinge and iridescent weathering. This is made from standard HLLA glass so represents a separate vessel to the others analysed.

Discussion

Façon de Venise *glass*

The two fragments from the Catridge colourless glass goblet have a *Façon de Venise* composition, so the glass is a copy in the Venetian style. True *Cristallo* glass contains more sodium oxide and less calcium and iron oxide because of the ash purification process and the use of crushed quartz pebbles instead of sand.

Table 8: Composition of the Catridge glass fragments, analysed by SEM-EDS, wt% oxides, normalised, average of 3 analyses. Strontium determined by XRF. M-A = mixed-alkali, FdV = Façon de Venise*, HLLA = high lime, low alkali.*

SF no.		Type	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	Cl	K_2O	CaO	TiO_2	MnO	Fe_2O_3	SrO
3794	Goblet	FdV	14.55	3.68	1.54	64.48	0.20	0.25	1.00	3.79	8.91	0.12	0.74	0.63	0.04
3774	Goblet (knopp)	FdV	14.45	3.58	1.48	64.38	0.21	0.24	1.07	3.85	9.03	0.11	0.80	0.64	0.06
3780	Cylindrical beaker	M-A	4.59	3.66	2.62	57.43	2.23	0.09	0.87	7.29	19.75	0.18	0.06	1.20	0.17
3777	Plain pedestal flask	M-A	4.62	3.41	2.89	56.75	2.12	0.17	0.63	7.81	19.95	0.24	0.13	1.25	0.09
3781	Beaker / goblet	HLLA	1.52	2.10	3.04	59.74	1.98	0.22	0.28	6.55	22.69	0.23	0.07	1.53	0.05

Table 9: Composition of Catridge Façon de Venise *glass compared to average compositions of groups of colourless glass from London glasshouses and some London vessels: from top London B (Mortimer 1991) and Old Broad Street (Mortimer 1993a), Old Broad Street and Antwerp (De Raedt et al 2001; Cagno et al 2012) and Crutched Friars (Lerz et al 2015) (bd = below detection, - = not reported)*

Type	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	Cl	K_2O	CaO	TiO_2	MnO	Fe_2O_3	SrO
Cat 3794	14.55	3.68	1.54	64.48	0.20	0.25	1.00	3.79	8.91	0.12	0.74	0.63	0.04
Cat 3774	14.45	3.58	1.48	64.38	0.21	0.24	1.07	3.85	9.03	0.11	0.80	0.64	0.06
London B	14.3	1.9	0.8	69.0	0.4	0.1	0.4	4.0	6.0	-	0.6	0.3	-
Old Broad St	12.0	3.9	1.0	69.0	0.3	0.1	0.4	2.4	10	-	0.5	0.5	-
Old Broad St	13.0	3.1	1.8	64.5	0.3	0.2	0.6	5.0	9.7	-	0.8	0.6	-
Antwerp FdV	15.0	2.9	1.5	64.0	0.3	0.1	0.7	6	10	-	0.3	0.4	-
Crutched Fr	11.85	2.63	1.06	64.17	0.31	bd	0.90	7.53	9.94	0.10	0.90	0.53	

The composition of the Catridge *Façon de Venise* glass was compared with the products of contemporary glasshouses in Continental Europe and in London (Cagno et al 2012; De Raedt et al 2001; 2002; Mortimer 1993a) (Table 9). The London glasshouses are represented by glass waste excavated from Old Broad Street and Aldgate, both largely dated to the first half of the 17th century, and from Crutched Friars, dated from the late 16th/early 17th centuries (Lerz et al 2015). An analysed assemblage of contemporary London glassware is also compared: London Group B. The London glasses, particularly from Old Broad Street and London Group B, are similar to the Catridge goblet, which may therefore be from a 17th-century London glasshouse. The Antwerp glass in Table 9 is 16th century, which illustrates how the same type of technology was subsequently introduced to England, resulting in a similar glass composition (Cagno et al 2012).

HLLA glass

HLLA glass from different parts of Britain and Ireland can be differentiated based on the levels of manganese and phosphorus oxide. For example, glass from the Weald contains around 0.6 to 1wt% manganese oxide (Paynter et al forthcoming) and glass from Ireland only 0.2wt% (Farrelly et al 2014) (Fig 6). The distinctively low manganese content of the HLLA-based glasses from Catridge suggests that an origin in Ireland is a strong possibility, although other sources cannot be ruled out.

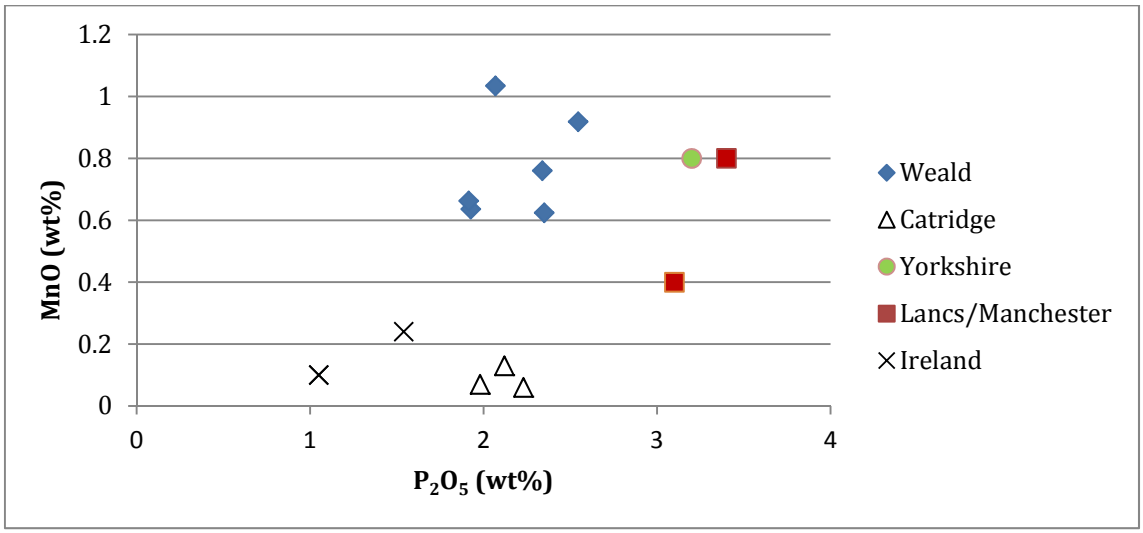

Figure 6 Average manganese and phosphorus oxide contents of HLLA and M-A glass from late 16th- and 17th-century glasshouses in South Yorkshire, Lancashire, Greater Manchester and the Weald (Dungworth et al 2006; Hurst Vose 1994; Hurst 1968; Paynter et al forthcoming) as well as two sites in Ireland (Farrelly et al 2014), compared to the HLLA and M-A Catridge glass

Mixed-alkali glass

Finally, two fragments (SF3780 and SF3777) are made from a mixed-alkali composition containing slightly elevated sodium oxide and strontium oxide. Slightly increased sodium contents can be seen in glass from a number of contemporary British glass furnace sites (Table 10), mainly 17th century, such as Haughton Green, Denton, Manchester (Hurst Vose 1994), but these glasses also have a lower potassium oxide content of around 1wt%. The most similar compositions to the Catridge glass, containing both sodium and potassium oxides at above 2wt%, are from late 16th-century Rosedale, Yorkshire, late 16th/early 17th-century Bickerstaffe, Lancashire, and some window glass from Chastleton thought to be early 17th century (Crossley and Aberg 1972; Hurst 1968; Mortimer 1993b).

Table 10: Mixed-alkali glass from late 16th/early 17th glass furnaces and window analyses (see sources in text, na = not analysed)

Sample	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	Cl	K_2O	CaO	TiO_2	MnO	Fe_2O_3
SF3780	4.6	3.7	2.6	57.4	2.2	0.1	0.9	7.3	19.8	0.2	0.1	1.2
SF3777	4.6	3.4	2.9	56.8	2.1	0.2	0.6	7.8	20.0	0.2	0.1	1.3
Rosedale	3.5	3.3	5.8	58.8	na	na	na	6.2	20.2	na	0.3	1.6
Bickerstaffe	5.9	4.7	2.3	60.4	3.4	0.5	na	1.4	19.5	0.1	0.8	0.6
	5.8	4.6	4.1	59.4	2.9	0.1	na	3.0	18.2	0.2	0.6	0.9
Chastleton windows	4.4	4.5	3.7	58.9	1.1	0.2	nd	3.3	18.0	na	nd	1.4
	4.6	2.9	4.8	61.9	0.9	0.2	0.2	2.5	19.4	na	0.1	1.2
	4.5	4.3	5.9	56.7	1.5	0.2	0.2	3.9	19.6	na	0.4	1.7
	3.5	3.8	4.5	58.5	1.7	0.3	0.2	3.2	19.6	na	0.2	1.6
	3.5	3.2	4.0	61.7	0.8	0.2	nd	2.7	22.1	na	0.1	1.3
	3.5	2.7	4.3	58.3	1.1	0.3	0.2	2.2	21.6	na	0.2	1.0
	3.5	2.7	4.1	59.9	0.8	0.2	nd	2.0	23.1	na	0.1	0.9
	3.7	3.1	3.1	61.0	1.0	0.2	0.2	2.1	21.8	na	0.2	1.4

The most likely explanation is that glassworkers were adding increasing amounts of sodium-rich raw materials to the batch. The large-scale production of 'mixed-alkali' glass, with a much higher sodium content due to the use of seaweed or kelp ashes instead of ash from hardwood species, has been discussed in the context of windows from *c* 1700–1835 (Dungworth 2012). However, there is analytical and documentary evidence that this practice dates back to earlier in the 17th century, with applications in vessel glass potentially before windows (see above, and Mortimer 1993b; Turnbull 2001). The addition of seaweed ashes increases the strontium content, and slightly elevated levels of strontium were detected in these two Catridge samples (Fig 7). Later in the 17th century, and into the 18th century, the sodium and strontium content of mixed-alkali glass is typically much higher (Dungworth 2012), suggesting more kelp was being added, and so the intermediate levels in the Catridge glass imply an early 17th century date.

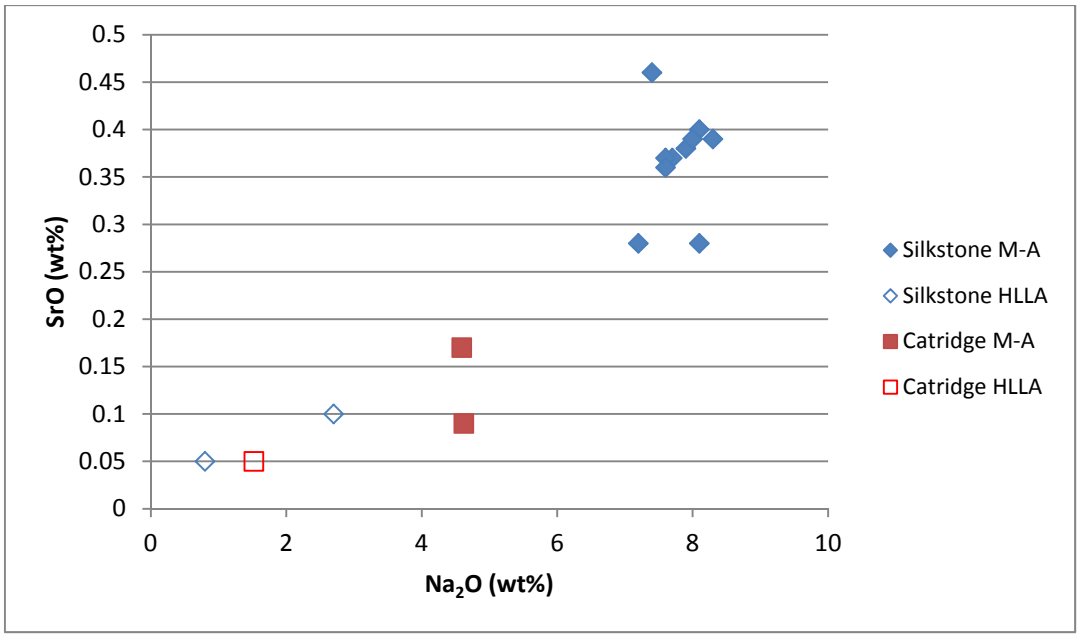

Figure 7 Sodium and strontium oxide concentrations in the Catridge glass compared to 17th-century glass from the Silkstone glasshouse (Dungworth et al 2006): bottom left open data-points are HLLA glass, the top right solid data-points are M-A glass and the intermediate solid data-points are the proposed early M-A glass from Catridge

The other explanation considered for the elevated sodium content is recycling of sodium-rich glass with HLLA batches, since the production of colourless glass was thriving in Britain by this time. Modelling of the Catridge glass fragment compositions shows that this would be equivalent to about 1/5 colourless glass mixed with 4/5 standard green glass by weight. However, some aspects of the composition cannot be accounted for in this way (for example the strontium content) and so this possibility was discounted.

Conclusions

There are at least three vessels represented amongst the five fragments studied: a colourless goblet (fragments SF3794 and SF3774), one or a pair of greenish cylindrical beakers/pedestal flasks (SF3777 and SF3780), and a third greenish pedestal beaker or goblet (SF3781). Their compositions are consistent with the 17th century but more probably earlier to mid-century rather than the second half. As matching pieces of glass were found in each of the contexts (97004) and (97008) it also suggests that these contexts were formed through one event, as previously suspected.

The composition of the colourless *Façon de Venise* goblet indicates that it may be a product from a London glasshouse whereas the HLLA vessel is more likely to be from an Irish glasshouse. The mixed-alkali vessels are early examples of what was a relatively new technology, and may also be from Ireland or from the north of England.

Table 11: Normalised SEM-EDS analyses of the Catridge glass, wt% oxides, three for each sample, with average, bd = below detection

	Na_2O	MgO	Al_2O_3	SiO_2	P_2O_5	SO_3	Cl	K_2O	CaO	TiO_2	MnO	Fe_2O_3	BaO	PbO
SF3794	14.43	3.71	1.55	64.56	bd	0.27	1.00	3.83	8.88	0.12	0.75	0.62	bd	bd
	14.63	3.69	1.50	64.41	0.20	0.23	1.03	3.79	8.87	0.14	0.76	0.61	bd	0.12
	14.58	3.65	1.56	64.47	0.22	0.26	0.98	3.76	8.97	0.10	0.71	0.66	bd	bd
Av.	**14.55**	**3.68**	**1.54**	**64.48**	**0.20**	**0.25**	**1.00**	**3.79**	**8.91**	**0.12**	**0.74**	**0.63**	**bd**	**bd**
SF3774	14.51	3.60	1.49	64.41	0.21	0.24	1.07	3.85	9.02	0.13	0.79	0.64	bd	bd
	14.40	3.57	1.45	64.41	0.19	0.28	1.07	3.89	9.01	0.11	0.80	0.65	0.12	bd
	14.45	3.58	1.50	64.33	0.23	0.20	1.07	3.82	9.07	0.10	0.83	0.63	bd	0.12
Av.	**14.45**	**3.58**	**1.48**	**64.38**	**0.21**	**0.24**	**1.07**	**3.85**	**9.03**	**0.11**	**0.80**	**0.64**	**bd**	**bd**
SF3780	4.66	3.67	2.63	57.40	2.20	bd	0.83	7.22	19.81	0.20	bd	1.24	bd	bd
	4.50	3.64	2.59	57.49	2.23	bd	0.92	7.32	19.76	0.19	bd	1.16	bd	bd
	4.62	3.67	2.63	57.39	2.26	bd	0.86	7.34	19.68	0.16	bd	1.19	bd	bd
Av.	**4.59**	**3.66**	**2.62**	**57.43**	**2.23**	**bd**	**0.87**	**7.29**	**19.75**	**0.18**	**bd**	**1.20**	**bd**	**bd**
SF3777	4.65	3.33	2.88	56.69	2.09	bd	0.62	7.88	20.05	0.22	0.11	1.23	bd	bd
	4.67	3.48	2.90	56.53	2.10	bd	0.63	7.82	19.99	0.25	0.15	1.28	bd	bd
	4.55	3.42	2.88	57.02	2.18	bd	0.64	7.72	19.80	0.24	0.13	1.24	bd	bd
Av.	**4.62**	**3.41**	**2.89**	**56.75**	**2.12**	**bd**	**0.63**	**7.81**	**19.95**	**0.24**	**0.13**	**1.25**	**bd**	**bd**
SF3781	1.58	2.09	3.06	59.60	2.03	0.25	0.29	6.55	22.68	0.22	bd	1.50	bd	bd
	1.55	2.05	3.06	59.84	1.89	bd	0.29	6.51	22.74	0.27	bd	1.53	bd	bd
	1.43	2.15	3.00	59.80	2.02	0.21	0.26	6.58	22.66	0.21	bd	1.55	bd	bd
Av.	**1.52**	**2.10**	**3.04**	**59.74**	**1.98**	**0.22**	**0.28**	**6.55**	**22.69**	**0.23**	**bd**	**1.53**	**bd**	**bd**

Animal Bone *by Jessica Waterworth*

The small assemblage of 142 countable animal bones mostly derived from structural deposits of Phase 2 (97021, 97024 and 97025) and demolition and dump deposits of Phase 3 (97004, 97008 and 97019). A single Phase 1 context (97010) and a single Phase 4 context (97009) also produced animal bones. The majority of the faunal remains (countable and non-countable) derive from contexts (97004) and (97008). Please refer to Waterworth (forthcoming) for a full description of the methods used and the results of the faunal analysis.

Methodology

The faunal assemblage was examined by the author at Fort Cumberland, Portsmouth, using the Historic England Zooarchaeological Reference Collection. Specimens were considered as countable if they comprised at least 50% of any bone zone (appendicular bones), at least 50% of any centrum zone (vertebra), at least 50% of zones 1 or 2 (ribs), at least 50% of the crown (isolated teeth), or if they were identifiable to taxon (eg cranial). Zone definitions follow Serjeantson (1996) for mammals and Cohen and Serjeantson (1996) for birds; additionally, zone definitions for mandibles were used, transcribed from a bovid mandible illustration (Serjeantson nd, as described in Worley 2017). The remains were quantified by Number of Identified Specimens (NISP), Minimum Number of Elements (MNE) and Minimum Number of Individuals (MNI). Tooth and mandible wear stages were recorded for sheep/goat (following Payne 1973; 1987), cattle and pig (following Grant 1982); with Payne (1973), Bull and Payne (1982) and Silver (1969) used for age estimation. Epiphyseal fusion ages were estimated following Silver (1969). Specimens were measured and recorded following von den Driesch (1976).

Results

The faunal remains were recovered by hand collection (NISP 95; Table 12), and sieving over a 4mm (NISP 32) and 2-4mm (NISP 15) mesh (Table 13). Preservation of the bones is consistently good across both phases. The assemblage as a whole is dominated by the domestic taxa, but nonetheless comprises a range of species, including mammals, birds, amphibians and fish.

While mid- to late-17th century demolition and dump deposits (97004) and (97008) were observed to have been separate contexts on site, during post-excavation analysis enough similarities in material culture were noted to indicate they derive from the same initial place (see above). With the exception of the sheep/goat remains (which derive solely from 97004), the analysis of the faunal remains likewise indicates similarities in taxonomic distribution and skeletal element representation across both contexts. Of particular interest was a left juvenile cattle mandible identified in (97004), and a right juvenile cattle mandible in (97008); as both mandible fragments comprise the same teeth and similar wear patterns, it is likely that they are associated. It supports the suggestion that these two contexts derive from the same source activity: a short-term series of dumping episodes during the mid- to late-17th century.

Table 12: Taxonomic distribution for countable (NISP) and non-countable bone fragments within the hand-collected fraction

Phase	**Late medieval/ early post-medieval (C15–16)**	**Post-medieval structural deposits (late C16–early C17)**	**Post-medieval demolition & dump deposits (mid- to late C17)**			**Later post-medieval or modern activity**	**Total**	**%**
Context	**97010**	**97021**	**97004**	**97008**	**97019**	**97009**		
Cattle	2		9	10			21	22%
Cattle?			2				2	2%
Cattle/Red deer	1						1	1%
Sheep?			2				2	2%
Goat?	1						1	1%
Sheep/Goat			11				11	12%
Pig			20	9	1		30	32%
Large mammal			2	3			5	5%
Medium mammal			1	5			6	6%
Lagomorph				1			1	1%
Small mammal				1			1	1%
Chicken			1				1	1%
Chicken?				1			1	1%
Goose?			2				2	2%
Mallard/Domestic duck?			1				1	1%
Columbid				1			1	1%
Turdid/Sturnid				2			2	2%
Bird - medium	1		2	1			4	4%
Toad			1				1	1%
Amphibian				1			1	1%
Total (countable)	**5**	**0**	**54**	**35**	**1**	**0**	**95**	**100%**
Large mammal	1		60	37			98	25%
Medium mammal	6		54	53			113	29%
Indeterminate	18	1	76	75	3	3	176	45%
Total (non-countable)	**25**	**1**	**190**	**165**	**3**	**3**	**387**	**100%**
Total (countable and non-countable)	**30**	**1**	**244**	**200**	**4**	**3**	**482**	**100%**

Table 13: Taxonomic distribution for countable (NISP) and non-countable bone fragments within the >4mm and 2-4mm sieved sample fractions

Phase	**Late medieval/early post-medieval (C15–C16)**		**Post-medieval structural deposits (late C16–early C17)**						**Post-medieval demolition & dump deposits (mid- to late C17)**		**Later post-medieval or modern activity**		**Total**	**%**
Context	97010		97021		97024		97025		97008		97009			
Sample	57003		57008		57010		57009		57001		57007			
Fraction	> 4	2-4	> 4	2-4	> 4	2-4	> 4	2-4	> 4	2-4	>4	2-4		
Cattle									5				5	11%
Sheep/Goat	1												1	2%
Pig									15				15	32%
Rabbit?				1		1							2	4%
Lagomorph									1				1	2%
Small mammal									4				4	9%
House mouse				1									1	2%
Small rodent				1				1				1	3	6%
Passerine												1	1	2%
Bird - medium									1				1	2%
Bird - small							2						2	4%
Frog sp.											1	1	2	4%
Amphibian			1	1				3	1	2			8	17%
Fish								1					1	2%
Total (countable)	**1**	**0**	**1**	**4**	**0**	**1**	**2**	**4**	**27**	**2**	**1**	**3**	**47**	**100%**
Large mammal									13				13	2%
Medium mammal	1								21				22	4%
Small mammal									2				2	0%
Indeterminate	28	38	11	38	3	7	8	28	222	134	5	26	548	94%
Total (non-countable)	**29**	**38**	**11**	**38**	**3**	**7**	**8**	**28**	**258**	**134**	**5**	**26**	**585**	**100%**
Total (countable and non-countable)	**30**	**38**	**12**	**42**	**3**	**8**	**10**	**32**	**285**	**136**	**6**	**29**	**631**	**100%**

The range of species and skeletal elements present, as well as the butchery noted within the assemblage, suggest that the faunal remains derive primarily from domestic consumption. It is likely that meat was largely obtained from cattle, pig and sheep/goat, with poultry (chicken, goose and duck) and eggs also potentially consumed.

The presence of rabbit and lagomorph (rabbit or hare) remains, along with the three wild bird taxa identified (one columbid and at least two passerines, one thrush-size and one smaller), may be indicative of the status of Catridge's inhabitants. The restriction of hunting rights to the elite during the medieval period led to wild animals, such as rabbits, being more commonly consumed by those of higher status during the post-medieval period, although it should be noted that rabbits are recorded across all site types for the post-medieval period (Holmes 2017, 139). Both columbids and passerines were consumed during the post-medieval period, and records show there were higher numbers of small birds at ecclesiastical and high-status sites than at lower-status sites (Holmes 2017, 136). However, due to the small size of the assemblage and the scarcity of rabbit/lagomorph and wild bird bones, it is unknown whether these remains represent food waste or are simply indicative of the species present in the area.

Fish scales were noted in two samples while one bone fragment and a single fish vertebra were also recovered. The microfauna recorded would have been attracted to food remains within and around the farm, while the amphibian remains can likely be attributed to nearby ponds, although the extant ponds recorded at the site post-date the settlement (Jamieson 2015).

The presence of skeletal elements from all parts of the carcass for the three domesticates indicates that whole-carcass butchery occurred on site, and that kitchen and table waste were discarded together. While no butchery marks were identified on any sheep/goat remains, the butchery of cattle and pig primarily comprises the disarticulation of mandibles and joints, the intensive splitting and sectioning of the spine and the disarticulation and midline splitting of heads. Two cattle bones (one humerus and one radius) had also been split longitudinally for marrow extraction.

Minimum Number of Individuals (MNI) was calculated for all three domesticates, indicating the presence of at least six cattle, five pigs and two sheep/goats (Table 14). The presence of both juvenile/skeletally immature and adult cattle may represent meat and dairy production at Catridge (Payne 1973), although it is possible that adult cattle were also used for traction (as suggested by a pathological metatarsal which could represent an individual with spavin). Pigs were likely kept for meat production, while an adult sheep could have supplied either meat, wool or milk (if a ewe; Payne 1973). The neonatal individual for each species may be a result of neonatal mortality, potentially representing poor husbandry, or simply accidental deaths (Gillis et al 2016).

The assemblage yielded very little metric data for cattle, pig and sheep/goat, but the measurable specimens are comparable with the smaller specimens previously recorded (cattle and sheep/goat) or are of average size (pig) for the

post-medieval period (University of Southampton 2003). This may simply reflect the size of the breeds present at Catridge during the post-medieval period, or perhaps that the remains all derive from female individuals. While the paucity of biometric data may not enable further interpretation for Catridge, when combined with data from other sites, it may hold group value for the post-medieval period in southern England.

Table 14: Minimum Number of Individuals (MNI) for cattle, pig and sheep/goat

Species	Cattle	Pig	Sheep/Goat
Adult/skeletally mature	3	1	1
Juvenile/skeletally immature	2	3	
Neonatal	1	1	1
Total	**6**	**5**	**2**

The development of animal husbandry expanded rapidly from the 16th century onwards, in what has been now termed the 'agricultural revolution' (Albarella 1997; Holmes 2017; Thomas 2005). Defining aspects of this 'revolution' include an increase in agricultural specialisation (including veal and dairy production), improvement in livestock breeding to increase production (comprising in part an increase in size), and the enclosure of fields (and thus the privatisation of land; Albarella 1997; Holmes 2017; Thomas 2005; Thomas et al 2013).

While the small size of the assemblage limits the interpretation of the faunal remains, the age at slaughter for cattle and pig is consistent with both dairy and meat production at Catridge during the post-medieval period, while the presence of at least one adult sheep/goat may represent wool, dairy or meat production. The interpretation of the biometric data is uncertain, representing either the presence of small breeds or female individuals at Catridge; nonetheless, in the future the data may contribute to a wider understanding of the improvement of livestock within Wiltshire and southern England. The small size of the assemblage means that it is not clear whether the higher proportion of pig compared with sheep/goat reflects an economic or dietary preference, although it is interesting to consider these numbers in relation to the agricultural trends of the post-medieval period, which generally saw an increase in the relative frequency of sheep and a decrease in pigs in rural settlements (Holmes 2017, 133). This was likely due to the privatisation of land, with large numbers of pigs becoming hard to keep as a result of the associated reduction in pannage, while sheep would have been necessary for manure and sustaining the wool trade (Holmes 2017, 133 and 152).

Marine shell *by Greg Campbell*

The excavation produced a very small assemblage of marine shell (42 identifiable items from four contexts, including seven from the sieving of two soil samples), mostly from contexts of 17th century date. This has little further

archaeological potential itself, but has clear implications for any future excavations. Almost all the shells were common oyster, *Ostrea edulis*; two shells were mussel, *Mytilus edulis*. Preservation was very good: comparatively little of the oysters were unidentifiable fragments; encrusting organisms useful in diagnosing the types of beds exploited were present on many shells. Also, the basal (cupped) valves showed features useful in diagnosing production methods: two showed angular facets indicating reefs, while most were broadly elongate, suggesting relatively muddy beds in strong tidal flows. Two valves were clearly fire-darkened, and several valves were only one or two years old ("spat"), too small to be eaten. The oysters were typically of small size, averaging approximately 55mm in length, with only a few of typical size for presentation 'on the half-shell' (65mm or more), suggesting these oysters represent material processed before cooking and serving ('kitchen waste').

Shellfish must be eaten fresh, but are bulky goods; therefore these shells can demonstrate changes in long-distance high-speed bulk transport during the early modern period in Wiltshire specifically and inland England generally. Also, the nature of the production and management of shellfish (especially oysters) is comparatively well-understood for these periods from ports and very high-status residences such as castles; a larger sample of these shells would have the potential to study the much less well-understood methods of oyster production for supplying the gentry.

Charred plant remains *by Ruth Pelling*

Until recently post-medieval rural settlement sites were rarely subjected to detailed archaeobotanical sampling and analysis compared to earlier settlements or urban sites, particularly in the south-west region (Straker 2007). While much of our understanding of rural agriculture and household management for the period is derived from historical records and accounts (for example Dyer 1989; Kerridge 1967; Markham 1668; Slicher van Bath 1963), archaeobotanical analysis can provide evidence about plant use, and particularly the disposal of plants and related waste products, not reflected in written records. Archaeobotanical sampling of post-medieval rural settlements has the potential to provide evidence for the introduction of new crops and changes in weed flora associated with improved farming methods introduced during this period.

At Catridge, sampling was carried out with the aim of identifying the arable character of the site and the nature of exploitation and disposal of plants and plant materials during the period of activity), particularly where they might relate to use of individual structures. For full details of the methodology employed see Pelling (forthcoming).

Nine flotation samples were taken during the excavations, the majority from post-medieval (16th and 17th century) structural and demolition or dump deposits. A single sample was taken from a medieval deposit (layer 97011), and one sample is from a more recent feature (97016). The volume of sediment

taken was 30 to 40 litres where possible, or 100% of the fill for smaller features. As the number of identifiable items other than charcoal was too low for meaningful numerical analysis, they were identified without being extracted and quantification was based on approximate number of items seen during the assessment (Table 15).

Charcoal was present in small quantities (5 to 100 fragments) in most samples, with greater quantities (>100 fragments) present in layer (97008). The four samples containing the greatest quantities were selected for charcoal identification: two from post-medieval demolition deposits (97008) and (97003), and one each from pit fill (97021) and post-hole fill (97025), both believed to be related to 16th-17th century activity.

Results

Charred plant remains other than charcoal were present in nine of the ten samples (Table 15). Grain and other seeds were present in small numbers (usually 1 to 5 items and never more than 25 items in total), indicative of background scatters of charred debris rather than primary deposits of arable crops or crop processing by-products. There was no cereal chaff.

Single cereal grains of wheat (*Triticum* sp.), barley (*Hordeum vulgare*) and oats (*Avena* sp.) were identified. The wheat grain was rounded with steep embryos, typical of free-threshing varieties which include both hexaploid bread type wheats (*Triticum aestivum* sl) and tetraploid rivet wheat (*Triticum turgidum*). Given the absence of chaff, it was not possible to establish which type of wheat was present, or if the oat grains were derived from wild or cultivated species. The barley was hulled but it was not possible to establish if it derived from a two- or six-row form. Small numbers of cultivated legumes were present within seven flots, always in small numbers (<6), but including at least two species: peas (*Pisum sativum*) and broad/field bean (*Vicia faba*). Seeds of wild plants were extremely rare and included vetches or tares (*Vicia/Lathyrus*), docks (*Rumex* sp.), clovers/trefoils (*Trifolium/Lotus* types) and Caryophyllaceae (pink family), all of which could have occurred in disturbed habitats around the settlement, or within arable fields or field margins. The vetches or tares may also have been cultivated as a fodder crops.

Wood charcoal was generally fragmented and pieces were small and of variable preservation making identification difficult. The results are given in Table 16. Secure identifications were only made where all the required features were clearly seen. Uncertain identifications are indicated by the use of 'cf' or grouped taxa (*Quercus*/*Castanea* sp., Maloideae/*Prunus* sp., 'indeterminate ring porous taxa' and so on). Given the post-medieval date of the deposits it is possible that introduced species are represented. For full details see Pelling (forthcoming).

All samples produced a similar mixed range of wood taxa with oak (*Quercus* sp.), elm (*Ulmus* sp.) and pomaceous woods (the Maloideae) being dominant; oak formed almost half the assemblage overall. Minor taxa, represented by fewer than ten fragments in total, were ash (*Fraxinus* sp.), hazel (*Corylus* sp.) and blackthorn/plum type (*Prunus spinosa/domestica).*

Table 15: Charred plant remains noted during assessment

Period	Sample	Context	Deposit type	Sample vol. l	Grain	Grain ID	Chaff	Pulses	Pulse ID	Weeds	Charcoal	Comments
medieval	57005	97011	layer	40	2	*Triticum* sp. *Hordeum vulgare* L.	0	1	*Pisum/ Vicia*	1	1	
post-medieval	57003	97010	layer	40	1	*Hordeum vulgare* L.	0	1	*Pisum/ Vicia*	1	1	
structural TPQ 16th C	57008	97021	pit fill	40	1	*Hordeum vulgare* L.	0	1	*Pisum sativum* L. *Pisum/ Vicia*	0	3	fish scales
	57010	97024	post-packing	10	2	*Avena* sp.	0	0	-	0	1	
	57009	97025	post-hole fill	25	2	*Triticum*, *Avena* sp. *Hordeum vulgare* L.	0	1	cf *Vicia faba* L. *Pisum/ Vicia*	2	3	fish scales
post-medieval	57002	97003	back fill	40	1	*Triticum* sp.	0	1	*Pisum/ Vicia*	1	3	
demolition TPQ 17th C	57001	97008	dump	40	2	*Triticum* sp. *Hordeum vulgare* L.	0	1	*Pisum/ Vicia*	1	4	bone
post-medieval or modern	57006	97016	disturbance	40	1	*Hordeum vulgare L. Avena* sp.	0	0	-	0	1	
	57007	97009	wall trench	40	1	*Triticum* sp.	0	1	*Pisum/ Vicia*	0	1	molluscs

Quantification: 1 = 0-5 items; 2 = 6 - 25; 3 = 25-100; 4 = >10

Table 16: Wood taxa identified in selected samples

	Structural deposits			Demolition deposit	
Sample	**57001**	**57008**	**57009**	**57002**	
Context	**97008**	**97021**	**97025**	**97003**	**Total**
Feature type	**layer**	**pit fill**	**post-hole fill**	**dump**	
Taxa					
Quercus sp.	62	27	19	11	119
cf *Quercus* sp.	-	1	1	1	3
Quercus/Castanea sp.	3	-	-	-	3
Ulmus sp.	5	12	14	16	47
Fraxinus sp.	-	-	1	2	3
cf *Fraxinus* sp.	-	-	1	1	2
Maloideae	16	3	9	-	28
Maloideae/*Prunus* sp.	4	4	-	7	15
cf Maloideae/*Prunus* sp. round wood	1[a]	1[c]	-	6	8
Prunus spinosa/domestica type	1	-	2	2	5
Corylus sp.	4	-	3	-	7
Corylus sp. round wood	2[b]	-	-	-	2
Indet. ring porous taxa	-	1[d]	-	2	3
Indet.	2	1	-	2	5
Total	100	50	50	50	

a. twig wood retaining bark, ≥2 yrs growth; b. ≥3 yrs and ≥6yrs growth; c. ≥3 yrs growth, ring porous taxa; d. ≥3 yrs growth

Some variation in the distribution of wood taxa is observable in the assemblage. Hazel occurs in two samples only (from layer 97008 and post-hole fill 97025). Oak was particularly prominent in layer (97008) with the Maloideae forming the second largest taxa group. Oak outnumbers elm fragments in all three deposits associated with the structural deposits. In deposit (97003), associated with the demolition phase, elm is slightly more numerous than oak.

Discussion

The scattered grain and pulses (wheat, barley, oats, peas and beans) recorded from the excavations at Catridge are amongst the staple foods and fodder crops most widely encountered in medieval and post-medieval rural contexts, both in archaeological deposits and historical records (Greig 1996). All were found at Shapwick, Somerset, the most comprehensively sampled contemporary site in southern Britain to date (Straker et al 2007).

No evidence for crop processing activities was recovered; chaff was absent, while weed seeds were very limited and did not include any of the classic annual cornfield weeds which were often abundant within medieval and post-medieval arable fields. It has not been possible to establish if improved arable management contributed to the paucity of weeds recorded given the limited nature of the assemblage, though as more contemporary assemblages become available it should become feasible to plot changes in weed flora through time.

The presence of fish scales and a fish vertebra (contexts 97021 and 97025) would be in keeping with kitchen waste and it is possible that the grain and pulses are derived from food waste rather than crop processing. If the deposits do include kitchen waste, the total absence of herbs, spices and fruits is of interest, although this could represent preservation bias, particularly for leafy herbs or fruits. A wide range of imported plant foods were available by the 16th to 17th century (Greig 1996).

All the wood taxa identified are native and could include both large specimen trees (oak, elm and ash), and understory or hedgerow species (blackthorn, hazel, the Maloideae). Given the small quantity of charcoal recovered, and the mixed assemblages, it was not possible to categorically link a particular taxon to a structural purpose or other use. The charcoal assemblage is likely to derive from structural timbers and wattle from either domestic or arable buildings, and collected or cut hedgerow and wild taxa, all ultimately used as fuel or burnt by other means. No clearly defined hearths were identified, or evidence for burning *in situ*. The wood within the charcoal assemblage could also include cultivated fruits and nuts, including hazel or orchard fruits, although in the absence of fruit remains, it is more likely that the wood derives from scrub and hedgerow taxa.

The limited assemblage of charred plant remains indicates the use of free-threshing wheat, barley, oats and pulses at the site in the 16th and 17th centuries. The grain and pulses were fully processed, with no evidence for crop processing activities and a very limited weed assemblage. While the results do not provide significant evidence for arable development in the centuries immediately prior to the technological reforms of the 18th century, they will provide greater value as further contemporary sites are sampled. The charcoal is likely to derive from mixed firewood rather than the burning of *in situ* structural timbers, although the taxa identified included woods commonly used as building timbers such as oak and elm. Other firewood could have derived from orchard trees or hedgerow shrubs.

DISCUSSION

The archaeological evidence indicates that the structural remains in this area of the site are post-medieval (early modern) in date, though the truncated buried soils suggest this area was agricultural land or gardens in the 12th–15th centuries. The work certainly does not rule out the original hypothesis of a medieval origin to the settlement earthworks, since the agricultural soils could relate to the croft part of an earlier homestead, while the tile fragments from the northern part of the trench hint at the presence of an earlier building nearby. However, the excavations have shown that the earthwork feature selected for investigation was not a medieval house platform as presumed but a post-medieval building, likely associated with the agricultural activities carried out by the household occupying the existing farmhouse at Catridge, which dates from the late 16th century. There may indeed be medieval remains among the visible earthworks, perhaps including the platform to the south-east of the excavated building, which appears to have a scarp overlying its northern side that would indicate it belongs to an earlier phase, and other small platforms (e.g. that marked 'h' on Jamieson 2015, fig 3). However it seems many of the earthworks in this field are post-medieval in date and indicative of farming activities, which is supported by subsequent geophysical survey results, especially Ground Penetrating Radar, which identified a number of buildings with stone wall foundations across the two paddocks, giving some idea of the layout of the post-medieval farmstead (Linford et al 2016).

The archaeological remains in the excavation area were dominated by a refuse deposit of 17th century date, which means that the results of the excavations not only reflect activities represented in that particular area of the settlement but also suggest connections with activity at the main farmhouse. The standing building recording identified a period of expansion for the farmhouse in the early/mid-17th century, associated with the construction of an ostentatious dairy, including a cheese loft (Last et al 2016, 110): historically this is 'cheese country' and dairying was well-attested locally by the 16th century (Last et al 2016, 72–3). Much of the material found in the refuse deposit may be linked to this phase of development at the house and to the daily life of its household. Particularly suggestive of a connection are the number of pancheons, indicative of dairying activities.

Although not particularly large and therefore not definitive evidence of the full range of activities carried out at the site, the finds assemblages from the dump deposit are important because few comparable assemblages from rural sites of this date have been published. The ceramic material from Catridge is typical of the West Country in this period and contains forms which are usually associated with rural activities. Typically, large post-medieval assemblages are associated with urban excavations, including in the broader region Trowbridge (Mepham 1993), Bath (Vince 1979), Warminster (Mepham 1997) and Cirencester (Ireland 1998). The sites at Somerford Keynes, Gloucestershire (McSloy 2005; Brett and Hancocks 2008), Devizes Pipeline (Vince 2004) and Clackers Brook, East Melksham (Hardy and Dungworth 2014) have also produced small assemblages of post-medieval ceramics from stratified deposits. These examples are rural

sites but, unlike the material from Catridge, probably do not represent a deposit from a single household. The ceramics from the dump deposits are mostly early 17th century in date although a few later sherds, for example the Westerwald mug or tankard fragment, suggest a deposition date later in the 17th century, perhaps implying the dumping of a household assemblage that had been accumulated during the course of the century.

Along with the architectural features of the farmhouse the Catridge assemblage provides a glimpse of a wealthy household in 17th-century rural Wiltshire, involved in activities associated with regional farming traditions. There is good evidence that the household was also engaged in wider networks with imported ceramics and glassware adorning their table, along with oysters brought in from the coast. It is unfortunate that little can be said about the local environment at this time. Two cores were taken from different points along the main hollow-way where waterlogged deposits were suspected but assessment of diatoms found they were poorly preserved and no further work was recommended. Similarly the faunal and botanical evidence provides only limited evidence of the local agricultural economy. The presence of all the main domestic animal species and cereals does not suggest specialised dairying but it is likely these assemblages, like the artefacts they are associated with, derive from household consumption rather than the farmstead's production.

More relevant to understanding the economy of the household are the structural remains that precede the dump at Catridge, though these are not particularly substantial. The stone walls and associated pit and post-hole represent a non-domestic building, though it is impossible from the evidence retrieved from the excavations to say exactly what its function was. Suggestions that the pit and post-hole arrangement could indicate a cheese (or cider) press cannot be proven. What we can say is that the building was part of the farm complex at Catridge and therefore would have been intrinsic to a core activity carried out by the community living and working at the farm. It was abandoned at a time of transformation at the site, so may reflect an activity that was reduced in importance once the dairy and cheese store were constructed at the farmhouse.

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