

# Medieval and Later Artefacts from Bainbridge, North Yorkshire.

Richmondshire,  
Yorkshire Dales,  
North Yorkshire.



David Budge  
Mercian Archaeological Services CIC  
Report MAS046  
05/09/2019



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# Medieval and Later Artefacts from Bainbridge, Yorkshire Dales, North Yorkshire.

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David James Budge (ORCID ID 0000-0003-2718-3532)

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Front cover Illustration: General view looking SW across the Area of Investigation, with the stream winding its way downhill from near the field barn at centre right. Inset: part of the assemblage of ceramics and clay tobacco pipe from the investigation.

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## Non-Technical Summary:

A topographic survey training course was lead by Mercian Archaeological Services CIC in April 2018 on pasture land containing earthworks at Bainbridge, North Yorkshire. It was noted during the course of the survey that recent disturbance of the ground by rabbits and erosion of slopes by sheep had exposed areas of soil within which artefacts could be seen. A non-systematic survey of these exposed areas was conducted by the writer in order to recover artefacts which might allow a first attempt at provisional and tentative dating and perhaps interpretation of past land use within the Area of Investigation. Further survey training was offered in November 2018. Again the opportunity was taken to check for artefacts and to search as many of the areas of disturbed ground within the land parcel as possible.

The artefacts discovered during the first survey were photographed, collected, individually bagged and their find spots recorded using navigation grade GPS with an accuracy of +/- 5m. The photographs were subsequently used to check and refine the logged positions further. The artefacts discovered during the second survey were recorded using a total station tied in to the British National Grid.

The land parcel contains earthworks that Stephen Moorhouse has suggested represent, predominantly, the remains of the farm belonging to the medieval manor of Bainbridge. There is also, at the highest point of the site, an enclosure that is Scheduled as a 'slight univallate hillfort', a type of enclosure thought to date to the late Bronze Age to early Iron Age periods.

The majority of the seventy artefacts found during the survey were pottery. Additional finds include a complete but worn iron horse shoe of mid-fourteenth to sixteenth century date, two other iron objects of uncertain date, two pieces of clay tobacco pipe stem of seventeenth to eighteenth century date, burnt animal bone of unknown date and a piece of nineteenth century bottle glass.

Few excavations of medieval sites have taken place in the Dales or the surrounding area, particularly on a large scale, so very little is known of the medieval pottery of the area. Excavated pottery production sites are even more scarce than excavated consumer sites: Only a tiny proportion of the pottery production sites that originally existed in northern England have been found, and none are closer than thirty seven kilometres from Bainbridge. As such, it is at present impossible to assign many of the Bainbridge pottery sherds to known production sites or to date them with precision. Despite this, it is possible to determine that the ceramics range in date from Saxo-Norman to modern; the majority are of post Norman Conquest to sixteenth century date. There is also a fragment that may be mid Neolithic to Bronze Age in date, but it is too small and abraded to be certain.

The Saxo-Norman to early post medieval pottery, animal bone and horse shoe were all found in one part of the site. Any conclusions drawn from a relatively small quantity of unstratified material collected in an opportunistic manner must be interim and tentative. However, it appears that the medieval finds may have fallen or been discarded down slope from a terraced platform that is still occupied by a post medieval or modern field barn. The pottery suggests that this terraced platform saw some form of activity that generated waste from perhaps as early as the twelfth century; the activity appears to have continued throughout the medieval period and probably ceased, or at least ceased generating waste, in the sixteenth century. The pottery varies in condition from small abraded sherds to large fresh examples, the latter suggesting that there has been little disturbance of archaeological deposits by cultivation or other subsequent activity.

Though varying erosion of the ground surface will have had some impact on the visibility of artefacts there was no evidence for medieval activities producing durable waste anywhere else within the present land parcel. However, pottery of eighteenth century to modern date was distributed apparently randomly across the whole of the modern land parcel. This appears to suggest that whatever activities were taking place on the terraced platform during

the medieval period they were probably constrained to that area alone; the rest of the modern land parcel had a different use. The nature of the activity is uncertain but the range of vessels present seem more typical of a domestic assemblage than specific industrial or farming (for example dairying) activities. It is possible that the finds derive from domestic activity at the top of the slope upon which they were found: a field barn stands there today but is surrounded by foundations - the finds suggest the possibility that the modern field barn could be the successor to a medieval structure in this location.

The late medieval horse shoe retains some of its nails and is therefore likely to be an accidental loss; it was found at the base of a slope in an area where the earthworks suggest the possibility of a former access track from the manor house or village below up into the present land parcel.

The pottery assemblage is of significance in providing evidence of the medieval ceramics utilised in Bainbridge and more broadly in Wensleydale, areas where little study of medieval pottery has taken place. Superficially, the diversity of fabrics appears to suggest that no single pottery production site dominated the local markets that served Bainbridge; this may indicate that there were no pottery production sites in the vicinity of Bainbridge and that ceramics were sourced from a range of producers within the catchments of the various local markets and fairs within reasonable distance from the settlement. Relatively high quantities of Tees Valley ware vessels come, unsurprisingly, from the Tees Valley area to the NE of Bainbridge; they might suggest that the residents of Bainbridge obtained products from markets in the area around Richmond. Alternatively, if the earthworks and activity belong to the manorial farm, some or all of the pottery may have been sent (either as vessels or more likely as 'packaging' for products) from the estate centre at Middleham, at the mouth of the Dale to the east.

The assemblage is distinctly different in character to the pottery assemblage recovered during recent test pitting in the village of Bainbridge by the Young Archaeologists Club and Yorkshire Dales National Park Heritage Team. Preliminary examination of the medieval pottery from that work appears to indicate it is less diverse in terms of fabrics and, possibly, also chronology. Comparison of these two assemblages, and those derived from other work in the village, have the potential to reveal significant information on the chronology of settlement in Bainbridge and the sources of supply and possibly differing status of the sites in question, as well as providing evidence to allow understanding of the ceramics of the Yorkshire Dales.

## Introduction:

On 26-27/04/2018 and 22-24/11/2018 Mercian Archaeological Services CIC lead field survey training on earthworks in a land parcel centred on NGR SD 9322 8982 in Bainbridge in Richmondshire. The land parcel is under grass and used as pasture for sheep. During the initial inspection of the site in April a number of artefacts (including a complete horse shoe and several sherds of medieval pottery) were discovered in the spoil excavated by rabbits and on slopes where sheep had eroded the surfaces. It was recognised that the collection of such finds might have the potential to provide information to assist in the interpretation and dating of the earthworks in the land parcel. The writer consequently undertook a non-systematic fieldwalking survey of the land parcel during both of the survey training courses. This survey attempted to cover the whole of the modern land parcel in a relatively systematic manner but it soon became apparent that it was only on the steeper slopes traversed by grazing sheep and where burrowing rodents had been active that patches of earth were exposed where artefacts could be found. The artefact survey in April consequently focussed on these slopes and at their bases, with particular attention given to the most productive area in the NE part of the site. The artefact survey in November attempted to cover the slopes and eroded areas in a more systematic manner.

It was not anticipated that a topographic survey training course on pasture land would encounter archaeological artefacts. The initial artefact survey was thus adhoc, undertaken in response to the conditions discovered on arrival at the site. By the time of the second survey training course the possibility of encountering artefacts was known, so it was possible to be more prepared and the recording of the artefacts, in particular, was more precise. However, the artefacts reported on here should essentially be considered chance finds, albeit with each of their find spots known to +/-5m.

As Mercian Archaeological Services CIC hopes, at time of completion of this report, to undertake further archaeological investigation on the site, this report does not consider the historical and documentary sources and the archaeological and historical background in any detail; it is anticipated that this will be done more comprehensively in the reporting on the formal research project. The present document should be seen as an interim statement on chance, essentially unanticipated discovery of artefacts on the surface of a land parcel used as pasture. It is, in essence, a finds report. This report does not present the results of the topographic survey training, which will, if anything new was discovered, be reported on in future by one of the writer's colleagues. Research to be included in the proposed project will also include study of excavated assemblages in the area, in the hope of being able to advance knowledge of the medieval ceramics of Wensleydale and to learn about past human activity in Bainbridge and Wensleydale beyond the limited conclusions that could be drawn from this small assemblage, owing to the rudimentary and formative state of ceramic studies in the Yorkshire Dales.

# Site Location and Geology:

## Location:

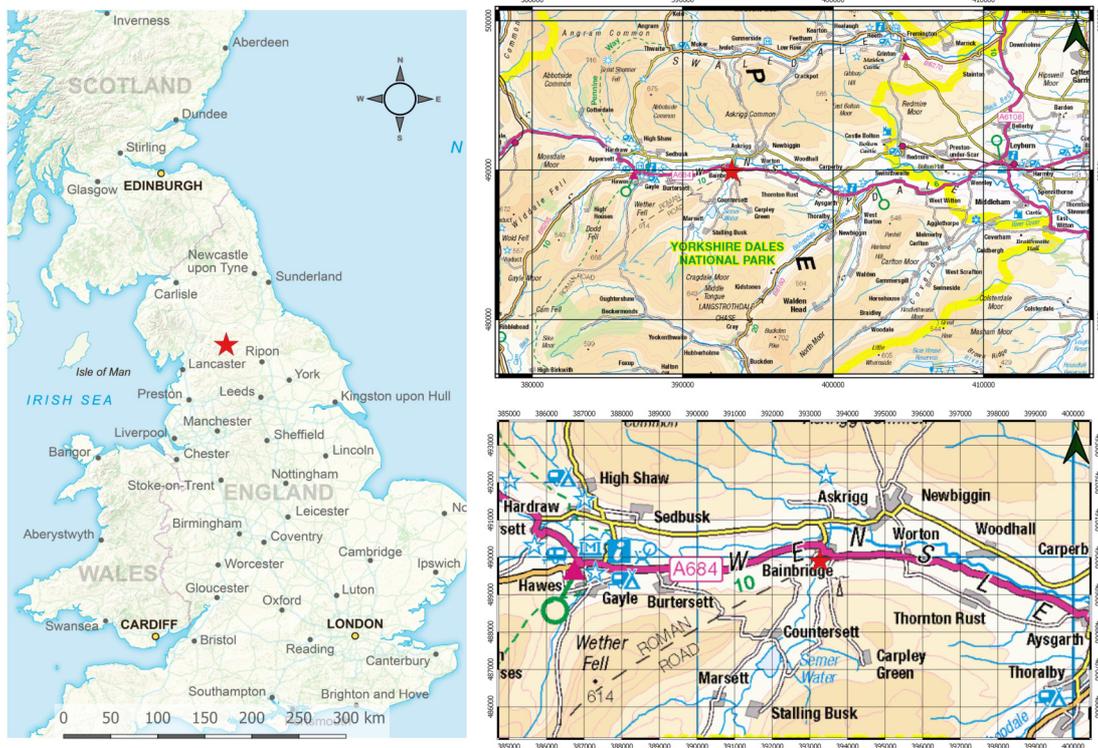


Figure 01 - a: General location of Bainbridge (red star) in Britain. b: Location of Bainbridge (red star) in Wensleydale. c: Location of Bainbridge (red star) in relation to the River Ure and River Bain and local settlements.

Wensleydale is situated in North Yorkshire (Figure 01a). It is one of the Yorkshire Dales cut into the eastern side of the Pennines (Figure 01b), descending eastwards out of the Pennines to the Vale of Mowbray. Wensleydale is one of the most northerly of the Yorkshire Dales, being located between Swaledale, to the north, and Wharfedale and Coverdale, to the south. In present times the River Ure flows through Wensleydale; the Dale is somewhat unusual in the area in not being named after its principal river but this was not always the case, the Dale formerly being known as Yoredale (Moore 1957, 92); though Ekwall notes references to Wensleydale by c.1150 and in 1218 (Ekwall 1960, 506).

The modern settlement of Bainbridge is situated in the middle section of Wensleydale (Figure 01c). The Dale is quite wide here. The modern village is located to the south of the River Ure and on the west bank of the River Bain, with minor incursion of settlement on to the east side of the latter, particularly in proximity to the present Bain Bridge (Figure 02). The Bain is a tributary of the Ure and flows a short distance from Semer Water, to the south of Bainbridge, down Raydale (yorkshire-dales.com), passing by the settlement of Bainbridge to flow into the River Ure around 200m north of the northern part of the settlement. The modern settlement of Bainbridge occupies an elevation between the 210m OD and 230m OD contours.

The Area of Investigation (also henceforth referred to as 'the Site') is located to the south of the historic settlement, at SD 9322 8982 (Figure 02). Within the Site the ground rises from the 230m OD contour at its lowest to somewhere between the 250m OD and 260m OD contours at its highest part. The highest point within the Area of Investigation consists of a slight spur of land where Raydale meets the valley of the Ure.

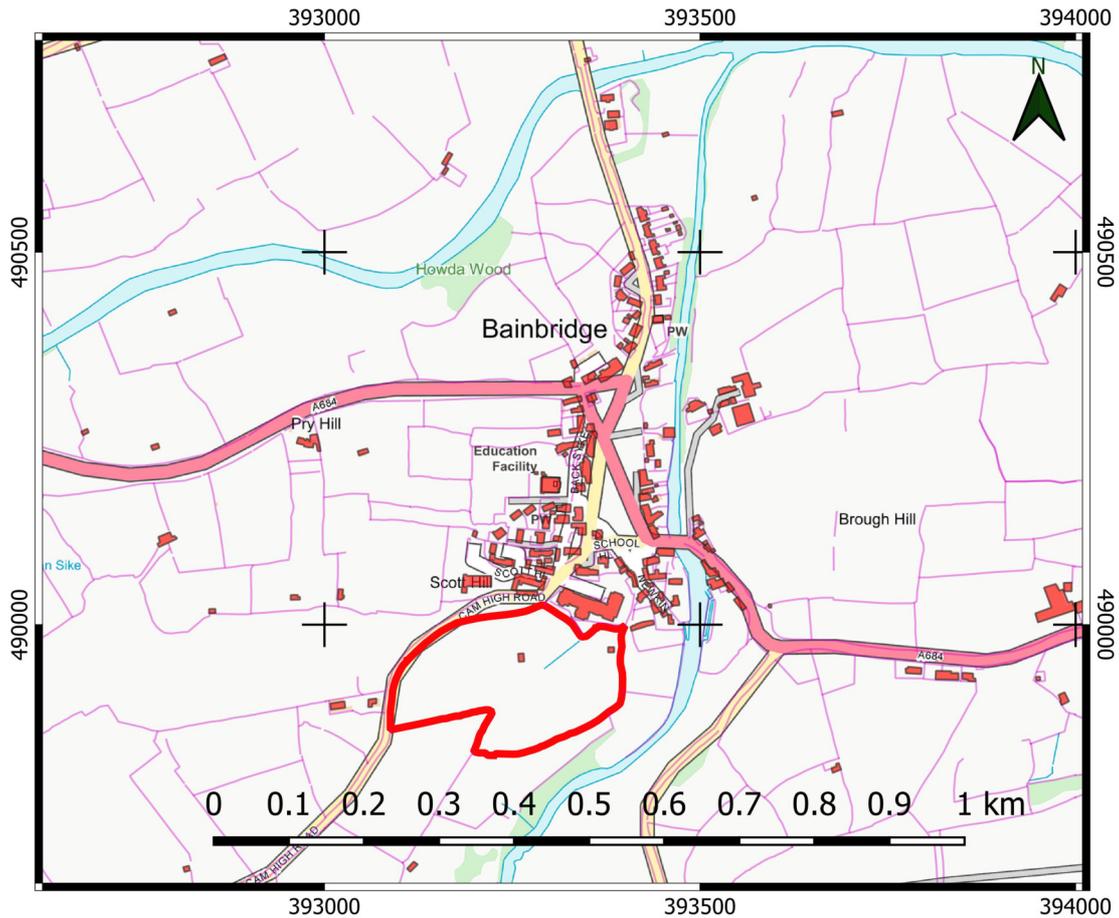


Figure 02 - The Area of Investigation (bounded by red polygon) in relation to the modern settlement of Bainbridge. Contains Ordnance Survey Open Data; original survey data; and data created by Mercian Archaeological Services CIC based on Environment Agency Data.

### Geology:

Wensleydale cuts through a sequence of Carboniferous rock. The base of the valley consists of Great Scar Limestone; above this are rocks of the Yordale formation; at a higher level still are Millstone Grits on the higher fells (Moore 1957, 92). The Yoredale Group consists of an alternating series of limestone, deposited in shallow carbonate seas, and rocks (sandstones, argillaceous rocks, coals, etc) formed from deposits laid down in a river delta. The Yoredale Group is interpreted as having formed as a result of two separate processes: 'a shallow, clear sea in which the limestone was deposited' and 'a delta-river, which grew out gradually across the shallow sea' (Moore 1957, 132). The river periodically abandoned the delta, perhaps simply as a result of a change of course, allowing marine conditions and the deposition of limestone to resume. A diversion within the local area allowed only minor limestone deposition, with evidence suggesting that this was 'in a very few feet of water', while a more significant cut off of the river closer to its source would lead to more substantial deposition of limestone (Moore 1957, 132-3).

At a higher stratigraphic level, the tops of the higher hills along the north and, to a lesser extent, south sides of the valley are capped with bedrock deposited in fluvial and estuarine environments at a later stage of the Carboniferous period. These rocks include grit-sandstones (Ten Fathom and Upper Howgate Edge Grit-Sandstone) and deposits mapped as Mudstone, Siltstone and Sandstone (eg Stainmore Formation and Millstone Grit Group) (BGS 2019).

The bedrock is masked in most of this part of Wensleydale by fluvial and / or glacial deposits of geologically recent date. Remnants of the action and of the retreat of the glaciers during the most recent Glacial are represented by Devensian period glaciofluvial deposits. They include sands and gravels and Diamicton Till (BGS 2019).

The Tills cloak most of the Dale sides and lower elevations of the hills above. The British Geological Survey (BGS) note that the Tills are 'glaciogenic in origin ... detrital, created by the action of ice and meltwater ... can form a range of deposits and geomorphologies associated with glacial and interglacial periods' (BGS 2019). Lower down the Dale, towards the base, there are remnants of Devnsian sands and gravels. These were laid down by meltwater in glacial conditions; while they would originally have extended along the full bottom of the dale they have been eroded and reworked by the modern rivers which deposited the Quaternary alluvium. Devnsian sands and gravels survive best in the middle reaches of Wensleydale; they are mapped extensively on the south side of the Dale between the River Bain in the west and Aysgarth in the east, with only patchy survival east of this: further up the Dale to the west there are remains of the Devnsian sands and Gravels from Bainbridge in the east to Burtersett in the west. There is a further patch to the east, north of Swinithwaite and West Witton.

In the base of the valley the youngest deposits are those mapped by the BGS as Quaternary alluvium; consisting of clay, silt, sand and gravel. These deposits primarily occur in association with the channels and floodplains of the modern rivers such as the Ure and the Bain. While mapped generically as 'Quaternary' (c.2.6mya to present) by the BGS it is likely that they were in the main deposited during the Holocene period (c.11ka BP to present); many of them can be seen to cut the Devnsian sands and gravels and are thus more recent than them. The rivers of the Dales can be quite active, even today: Fleming noted the erosive power of some of the River Swale's tributaries, including the Arkle Beck which has washed away the church at Arkle Town (Fleming 1998, 5); even the names of some of the rivers suggest their active power (Swale is interpreted as probably meaning 'whirling rushing river' (Ekwall 1960, 455)). It is possible that medieval or later ridge and furrow cultivation to the north of the Roman fort at Bainbridge has been cut by the alluvial fan of the River Bain (see below), suggesting erosion and deposition of ground in the last few thousand years in the immediate vicinity of the site.

Above the valleys many of the higher points either side of the Dale are mapped by the BGS as being capped with peat deposits of Quaternary age. These too are likely to be of Holocene age.

The BGS maps many of the slopes between the peat and the Devnsian Till as devoid of superficial deposits.

The scale of BGS mapping (1:50,000) means that in areas of geological complexity it is not always possible to be certain which geological deposits underlie any given modern land parcel. With this in mind, the site of investigation is mapped by the BGS as occupying the junction of three elements of the Yordale Group; a narrow band of Thorny Force Sandstone (331-337mya) runs broadly north-south and separates the Alston Formation Limestone (328-337mya) to the east from the Danny Bridge Limestone (331-337mya) to the west. The superficial deposits are mapped less ambiguously as Diamicton Till. The majority of the present settlement of Bainbridge is mapped as being underlain by Quaternary alluvium; the boundary of this alluvium with the Till to the south appears to be mapped within, or is in very close proximity to, the NE part of the Area of Investigation (which lies to the south of the modern village). However, examination of the topography using a relief model of the Environment Agency 0.5m resolution LiDAR data suggests the Quaternary alluvium is unlikely to be found in the Area of Investigation: it is likely to extend no further south than Sycamore Hall, immediately north of the Site, at the closest and the rising ground of the Site appears likely to have formed the edge of the valley in which the alluvium was deposited.

It seems, from the LiDAR data, that the western and northern parts of Bainbridge village occupy a higher (i.e., earlier) alluvial terrace than the green and the eastern part of the settlement. There also appears to be a palimpsest of paleochannels, ridge and swale structures, terrace deposits, alluvial fans, glacial features truncated by fluvial activity, and other geological features in the immediate vicinity of Bainbridge visible in the Environment Agency LiDAR Data.

## Historical and Archaeological Background:

Archaeological evidence indicates a significant time depth to human activity in and around Wensleydale. The majority of the earlier evidence comes from the higher ground rather than the lower parts of the Dale though this may be a product of the historic use of the landscape and the focus of archaeological investigation. Occasional chance finds suggest sporadic human visits to the area between the Late Glacial (Late Upper Palaeolithic) and early Holocene (Mesolithic); most significantly in the form of a small multi-period collection of lithic material including late Upper Palaeolithic (LUP) and early Mesolithic artefacts found on Carperby Moor, on the north side of the Dale around 7km NE of Bainbridge (Laurie 2003 225-6). Later Mesolithic activity is similarly scarce (the somewhat greater number of find spots may represent little more than the greater span of time of the Later Mesolithic compared to the LUP and Early Mesolithic); chronologically diagnostic Later Mesolithic narrow blade microliths, along with blades and blade-like flakes which may be broadly contemporary, have been recovered from Semer Water (Laurie 2003, Fig 66 1 - 30) approximately 2.5km west SW of Bainbridge.

Laurie notes that, as with the preceding periods, evidence of Early Neolithic activity is somewhat limited and it is not until the Late Neolithic and later that there is a considerable increase in evidence for human activity (Laurie 2003, 237). This comes in various forms, from finds scatters to monuments including henges, barrows, cup and ring marked stones, burnt mounds and field systems. Something of a concentration of the first four of these types has been identified on the south side of Wensleydale. These are to the SW, south and SE of Bainbridge, centred on Addlebrough Hill and the area to its east. The cup marked stone in a round barrow on Addlebrough (c.2.4km SE of Bainbridge) and the Castle Dykes henge to its east (c.5.6km SE of Bainbridge) were the only examples of their monument class identified in Wensleydale at the time of Laurie's review (2003, fig 71); burnt mounds are more common but again seem to include a cluster around Addlebrough; they are also found on either side of Raydale, south of Bainbridge (Laurie 2003 fig 69). Interestingly, Laurie states that 'the siting of the mounds could be predicted: most are at or above 250m OD, all sites without exception are on the banks of small streams ... at or just below the spring line' (Laurie 2003, 243). The stream which runs through the Area of Investigation (see below) appears to rise at, or just west of (unless it is piped in from elsewhere), the western boundary of the Site at a point which almost perfectly coincides with the 250m OD contour.

The earliest identifiable monument within the Area of Investigation belongs to the later prehistoric period. It is an oval, or somewhat piriform, earthwork measuring approximately 60m NE-SW by around 40m NW-SE, enclosing within its single ditch an area of approximately 48m x 30m in the same directions. It is Scheduled as a Slight Univallate Hillfort (NHLE no. 1009323). Slight Univallate Hillforts are a class of monument believed to belong to the end of the Bronze Age and the start of the Iron Age; they are generally small in size and usually have a single bank and ditch. This one, perched as it is on a spur of land, has reasonable views of the surrounding terrain, notably into Wensleydale to the north and NW and up Raydale to the south (Figure 05 - 07), though views to the NE are blocked by the glacial hill upon which the Romans later built a fort (see below). Perhaps more significant than the views *from* the monument are the views *of* the monument from the surrounding area: it is quite prominent when seen from the south, up Raydale, and is also visible from the SE, the direction of Addlebrough Hill and the apparent focus of later prehistoric activity around it.

The Romans built a fort on an eminence of Devensian Till to the east of the River Bain; the earthworks of this fort still dominate the landscape today. The fort is Scheduled (NHLE no. 1017920). A number of excavations took place on the fort and annex in the twentieth century, with investigations occurring in 1925-6; 1928-9; 1950-3 and 1956-69. The fort is considered to have been occupied by the military between the 2nd and late 4th century. It is speculated that it was originally constructed of wood and is believed to have been burnt in the late 2nd century then rebuilt in stone in the early 3rd century by the 6th Cohort of Nervi (Gardner 2009, 1). The fort has an annex to the east. Following the departure of the military there is evidence

(see below) that the fort, or the annex, continued to serve as a focus of occupation beyond the end of the Roman period.

A straight road runs SW out of Wensleydale over the uplands; the stretch immediately south of Bainbridge is clearly aligned on the centre of the fort. The road is known today as Cam High Road and it is recognised as a Roman road, Bainbridge to Ingleton, RR Margary 73 (Haken 2018). Collingwood stated that it 'is well known as one of the finest specimens of Roman road in England' (Collingwood 1928, 263). The route of the road was later used for the Richmond to Lancaster turnpike, constructed in 1751. It is stated to be one of the few Roman roads where the post medieval or later route is considered to occupy more or less exactly the precise line of its Roman predecessor with very little deviation (Haken 2018); most roads on Roman predecessors show deviation or some degree of lateral migration. The south western part of the road has a well defined and straight course and the line of the road on the east bank of the Bain running up to the south gate of the fort is considered to be visible as an earthwork causeway (Haken 2018), however the course of the road in its approach to Bainbridge and the point at which it crossed the Bain are uncertain. Preliminary study of the topography, historic maps and LiDAR data undertaken for this background study indicate that two of the possible routes the Roman road may have taken as it descended to Bainbridge pass through the Site (see Appendix 04). Recent test pitting in Bainbridge recovered substantial portions of a 3rd or 4th century Black Burnished Ware jar, probably crushed in situ, from a test pit c.50m SE of the causeway: as it was probably complete when deposited the vessel was considered by the excavators as likely to have come from a burial, such as are often encountered along the roads outside Roman sites (YDNPA 2018, 7). Unfortunately, the location of this find is 53m SE, at the nearest point, of the diagonal earthwork causeway considered by Haken to be the line of the road from the south gate, and c.50m west of the line of a faint linear earthwork in the LiDAR data that runs directly south from the south gate of the fort, down the hill perpendicular to the layout of the fort. The location of the Black Burnished jar, virtually equidistant between the two possible courses, does not provide evidence to favour one possible road course over the other.

Post Roman (and pre-Norman) evidence is elusive; while there are scattered finds of artefacts and the occasional burial (such as two burials considered likely to date to the 9th century exhumed from Bainbridge Roman fort in 1969 (Gardner 2009, 10)) these are not common. Additionally, much of Northern England is considered to be more or less aceramic during this period (McCarthy and Brooks 1988, 69), resulting in little durable cultural material surviving to be discovered. Using documentary evidence Moorhouse has highlighted the possibility that continuity of settlement in Wensleydale between the Roman period and Domesday may have been focussed on the Roman fort and its annex. Five townships were centred on Bainbridge by Domesday: Moorhouse suggests these were 'the successors to the communities established around the commercial centre of the fort in the Roman period, which survived through the "Dark Ages", Anglian and Scandinavian periods, only to be suppressed by Jervaulx Abbey in the twelfth and thirteenth centuries in favour of pastoral farming' (Moorhouse 2003, 303).

Moorhouse has identified the lost villas as Burgh, on the east bank of the Bain centred around the Roman fort (later absorbed into Worton township); Ingelby, on the north bank of the Ure above Bainbridge, and Fors immediately to the east of Ingelby, both of which were later absorbed into the forest of Wensleydale. Three further villas immediately east of Askrigg were absorbed into that township; they were Newbiggin, Nappa and Woodhall (Moorhouse 2003, fig 96).

Bainbridge is not mentioned by name in the Domesday Book but Brough and Fors are; they were at the time of the Domesday survey part of an extensive northern castlery of Count Alan of Brittany focussed on Richmond, including Middleham and extending down the Vale of Mowbray, up north as far as the River Tees and extending west into Wensleydale and Swaledale. These lands comprised the bulk of the honour of Richmond (Palmer et al 2010). Both Brough and Fors were recorded as waste in 1086.

Austin has stressed the 'frontier' and 'border' qualities of the region: Viking Cumbria, to the west, was, for example, annexed by Scotland in the early eleventh century and not taken by

the Normans until 1092; there was 'general lawlessness within the adjacent Pennine regions ... based no doubt on ancient traditions of separate identity and authority' (Austin 2007, 52-3). He notes that the major fees created by the Normans in the later eleventh century were 'concentrated south of the Tees at the mouth of the main crossings into Cumbria and the lawless Pennines' (Austin 2007, 53). Richmond Castle was constructed c.1070 (Goodall 2001, 16) in a strategic position at the mouth of Swaledale. It has been suggested that Count Alan similarly constructed the first castle at Middleham in order to impose control on Wensleydale (Weaver 1998, 21). Middleham castle had been constructed by 1086 (Weaver 1998, 3), by which time Count Alan had granted Middleham to his brother Ribald, with whose descendants it remained until the last of the line died without male issue in 1270 (Weaver 1998, 21-2).

Bainbridge is situated at the eastern edge of the medieval forest of Wensleydale, which consisted of much of Wensleydale west of the River Bain, on both sides of the Ure (Moorhouse 2003, fig 96). The forest of Bainbridge was considered by the Victoria County History to be 'the whole forest of Wensleydale south of the Ure' (Page 1914): between 1146 and 1170 Conan, Earl of Richmond, granted wardship of the forest to Robert, son of Ralph, lord of Middleham, who was also stated to be builder of the 'grange and vill' of Bainbridge. When the Abbot of Jervaux Abbey made complaint in the time of King John that Robert's son Ranulf had built 29 'domos focarios' (lit. kitchen boy / servants houses (translation from Whitaker 2018)) in the pasture of the forest, Ranulf stated that the town had been built before he became lord. In 1229 he further stated that 'the town of Beyntbrigg belonged to his ancestors by service of keeping the forest, so that they might have abiding there 12 foresters, and that every forester should have there one dwelling-house and 9 acres of land' (Page 1914). It has been suggested that the forest was administered from a lodge at Bainbridge (YDNPA 2018b). There was no church at Bainbridge; the settlement was located within the parish of Aysgarth (Page 1914).

The Victoria County History records that: 'The lords of Middleham had ceased to hold the office of forester before 1280, when Peter of Savoy, Earl of Richmond, had farmed out the township to tenants to hold at will. The manor included a capital messuage, a park of 17 acres, a water-mill, an oven and brewery, ten vaccaries in the forest, &c., and was valued at £282 5s. 6½d., or more than a third of the revenue of the earldom.

'Bainbridge followed the descent of the honour of Richmond till 1413, when Henry IV released to Ralph Earl of Westmorland and his heirs all his right in the manor, town and bailiwick of Bainbridge. Ralph was at the time life-tenant of the honour, and in the subsequent grant of the reversion of the honour to John Duke of Bedford his right in Bainbridge was specially reserved to him.

'The manor, thus again held by the lords of Middleham, followed the descent of that manor (q.v.), with which it was granted in 1628 to the City of London. ... The City sold it in 1663 to eleven of the principal inhabitants, who held the manor in trust for the freeholders. The "lords trustees" of the manor have continued to exercise the manorial rights. Since 1767 their number has been maintained at twenty-four, with power to fill vacancies from the freeholders.' (Page 1914).

### **Medieval Archaeology in the Dales:**

This report is concerned with a small assemblage of medieval pottery from the Area of Investigation. While the Yorkshire Dales are widely recognised as being extremely rich in archaeological remains, containing 'one of the best preserved archaeological landscapes in Europe' (Moorhouse 2003, 293), there has been very little intrusive archaeological investigation of sites in Wensleydale, particularly of those belonging to the medieval period. Indeed, the Dales are something of an archaeological unknown when it comes to excavation; few sites have been investigated and almost none on a large scale. This is not just a feature of the archaeology of the Yorkshire Dales but of the whole of northern England. It has been stated that the excavation of post-Roman sites in the north of England as a whole has been restricted to a few major sites: in the north west 'due to the terrain and relatively poor soils

there have been few threats which elsewhere would have resulted in excavations on medieval sites ... There have been very few excavations on rural domestic sites and none at all on those of manorial status' (McCarthy and Brooks 1992, 21). Similarly, the report on the ceramics from Barnard Castle, 27km NE of Bainbridge, summed up the local situation when it noted that the castle was 'well to the west of contemporary sites excavated in Northern England' (Freeman, Bown and Austin 2007, 353).

The Yorkshire Dales Historic Environment Record (HER) appears to confirm this picture. A search of the HER through the Heritage Gateway website revealed only three records that relate to medieval pottery anywhere within the whole area of the National Park (REF XXX). It is however possible that there are more records of medieval pottery finds on the HER database than are returned by a Heritage Gateway search (Luke Barker (NYDPA), pers comm 1/3/2019), but at the time of completion of this report the HER had not yet been able to return details about whether there were additional records of medieval pottery finds on the database and, if so, whether there were large numbers of additional records. A search of the published and relatively accessible unpublished literature, however, appears to suggest that there are unlikely to be many additional records on the HER to change the picture of a region where little pottery has been found.

The most significant published medieval excavations in the vicinity of Bainbridge are the extensive and detailed excavations of Barnard Castle (Austin 2007), 27km NE of Bainbridge, and the medieval hospital of St Giles at Brompton Bridge, not far east of Richmond (Cardwell 1995) and 29.3km ENE of Bainbridge.

'Published' is a key word: some key sites which would have had useful stratigraphy and a range of material culture allowing the pottery of the area to be classified and dated have been excavated but results have never been published. These include Richmond Castle (26km NE of Bainbridge at the mouth of Swaledale), seat of the honour of Richmond and perhaps home to the most important borough and market in the area, Middleham Castle, 20km E of Bainbridge at the mouth of Wensleydale, and Bowes Castle, around 24km NNE of Bainbridge. These sites were 'cleared' by the Ministry of Public Buildings and Works in the twentieth century. The Ministry's clearance works, on what are recognised to have been some of the most important archaeological sites in the country, usually involved stripping away archaeological deposits with the intent of exposing wall lines and foundations with little or no record of the deposits destroyed by such work. The excavation was usually undertaken by unskilled workmen and often without archaeological supervision (Austin 2007, 7). These clearance works have been described as 'the work of institutionalised vandals' (Austin 2007, 30). They often left, at best, collections of unstratified finds. A Scarborough ware spout (Bellamy and LePatourel 1970, 116) and two jugs pictured in the guidebook with no description or further information (Goodall 2001, 7) appear to be the only published pots from excavation at Richmond castle; the pottery from Bowes castle was mentioned as an aside in a report on Kirkcudbright castle (Dunning et al 1958, 121, 123, 133) and a box of unstratified pottery that might have been from Bowes was said to have been found in the works department at Barnard Castle (Freeman et al 2007, 353). The pottery from excavations at Middleham castle at least apparently exists in store (English Heritage 2019), so may be available for future examination, but is unlikely to have any useful stratigraphic detail recorded. The unpublished excavations of these key castles represent lost opportunities for understanding and dating the medieval ceramics of the region.

The only castle within Wensleydale itself, Bolton castle (c.10km east of Bainbridge), was the subject of archaeological investigation in the 1990s (ADS 2019) but it is unclear if pottery was recovered and no report on the work is available.

Stratigraphy on rural sites is often shallower and less secure than urban or castle sites. This appears to have been the case on one of the few rural excavations undertaken and published in the Dales themselves, at Yockenthwaite in Wharfedale, approximately 11km S of Bainbridge. The pottery here was apparently dated primarily on stylistic grounds rather than stratigraphy (Newman 2001, 115-6), though the excavators were able to distinguish eight phases dating between the twelfth and eighteenth centuries (Newman 2001, 112). The

published report is so lacking in detail on the pottery that it is unable to contribute to the understanding of the medieval ceramics of the Dales.

On a smaller scale (in terms of excavation size, but not necessarily in terms of the impact the recovered evidence may have), in recent years the television programme 'Time Team' and some of its protagonists have popularised what is often referred to as the/a 'Little Big Dig'. These are test pitting investigations often carried out by members of local communities in what Carenza Lewis has termed 'currently occupied settlements'. Most usefully for the subject of this report is such a project carried out in Bainbridge in 2017 by the Young Archaeologists Club in collaboration with the Historic Environment team of the Yorkshire Dales National Park Authority. This project excavated 30 test pits within the environs of settlement and the area to its east (YDNPA 2018, 2, 8-9). Even the provisional results of this work have shed significant light on questions of the development of Bainbridge (see below). In Swaledale, the next dale north of Wensleydale, Swaledale and Arkengarthdale Archaeology Group also excavated sixty two test pits in three settlements in Swaledale between 2014 and 2015 (SWAAG.org 2019). Despite the number of test pits excavated neither of these projects recovered significant quantities of medieval material; at Bainbridge the relatively few medieval sherds were small and abraded (Cumberpatch nd, 1 and pers comm); the Swaledale work similarly yielded mainly small abraded sherds, though in a few instances (test pits 38, 49, 52, 58, 59) larger, fresher, sherds were found, including some late medieval sherds considered likely to be from a primary context (test pit 38) (Vaughn nd).

This absence of basic archaeological data thus forms the background against which the Bainbridge finds under consideration must be assessed.

### **Description of the Site:**

The Area of Investigation contains a range of earthworks. These have been mapped by Stephen Moorhouse and the reader is referred to his published sketch plan (Moorhouse 2003, fig 97) for a more detailed survey of the earthworks than the LiDAR data used in this report provides. The Environment Agency Open Source LiDAR data, at 50cm resolution (Figure 03) does not reveal smaller or more subtle features that are present and can be detected by the trained eye in the field. While the reader is referred to Moorhouse for more detail, to provide setting for this report, the earthworks and other features detectable within the land parcel by the LiDAR are briefly discussed below. Limited map regression has also been attempted.

The Area of Investigation is a land parcel of approximately 4.246 hectares which contains two field barns and a range of earthworks (Figure 03). The Environment Agency has flown a number of LiDAR surveys of the rivers and floodplains of England. The highest resolution data available for Bainbridge at the time of writing was the Environment Agency 0.5m resolution DSM and DTM LiDAR data, available through an Open Government data licence v.3.

The 0.5m Digital Surface Model (DSM) LiDAR data for the Area of Investigation are displayed in Figure 03, where the data are displayed as a relief model with an exaggeration of the Z axis by a factor of five, to increase the visibility of the earthworks. A range of features can be seen in the data. These include: the slight univallate hillfort; field systems; track ways; terraces and building platforms; culverts; land drainage; erosion / runoff features; and former land boundaries, to name a few. The range of different features suggest that the present large land parcel was not always so: the features in the LiDAR data suggest that different parts of the present land parcel had different land use regimes in the past. In order to attempt interpretation of these, and consequently the likely degree of preservation of earlier features, it is therefore necessary to examine historic mapping to determine how the land parcel was used in the recent past.

The First Edition 6" to the mile Ordnance Survey map, published 1856, indicates that the present land parcel was divided into much smaller units at this time (Figure 04). The boundaries and some of the main buildings from this map are traced onto Figure 04. They indicate that the Area of Investigation was divided into six parcels when mapped in the mid nineteenth century. These six land parcels are lettered A - F in Figure 04. The historic

mapping provides valuable evidence for why there appear to be several different areas of past land use within the modern land parcel.

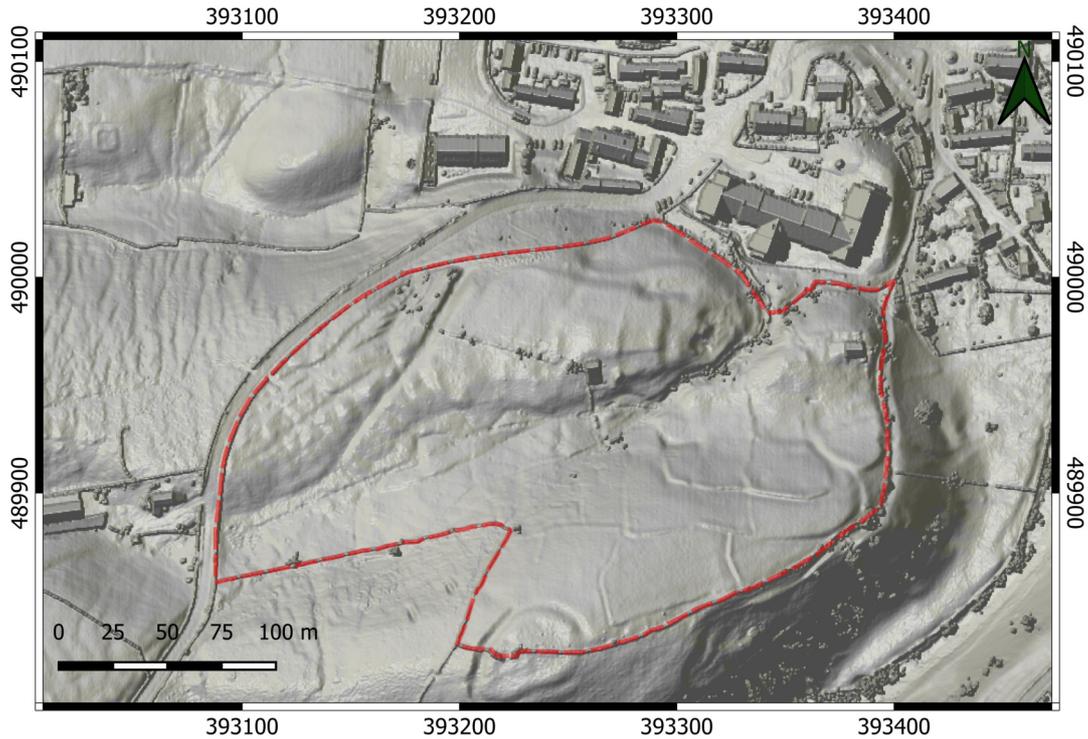


Figure 03 - Earthworks within the Area of Investigation (red polygon) based on 0.5m resolution Environment Agency LiDAR data displayed as a relief model with vertical exaggeration of a factor of 5.

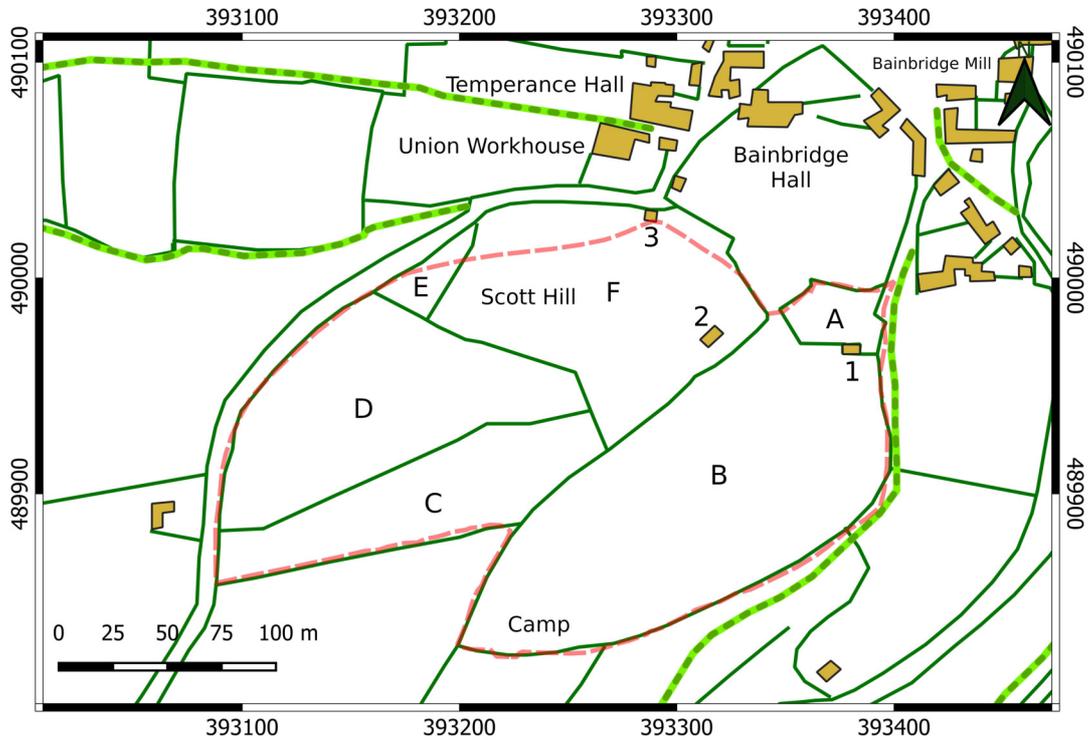


Figure 04 - Land parcels shown on the 1856 Ordnance Survey map within the Area of Investigation (dotted red line).

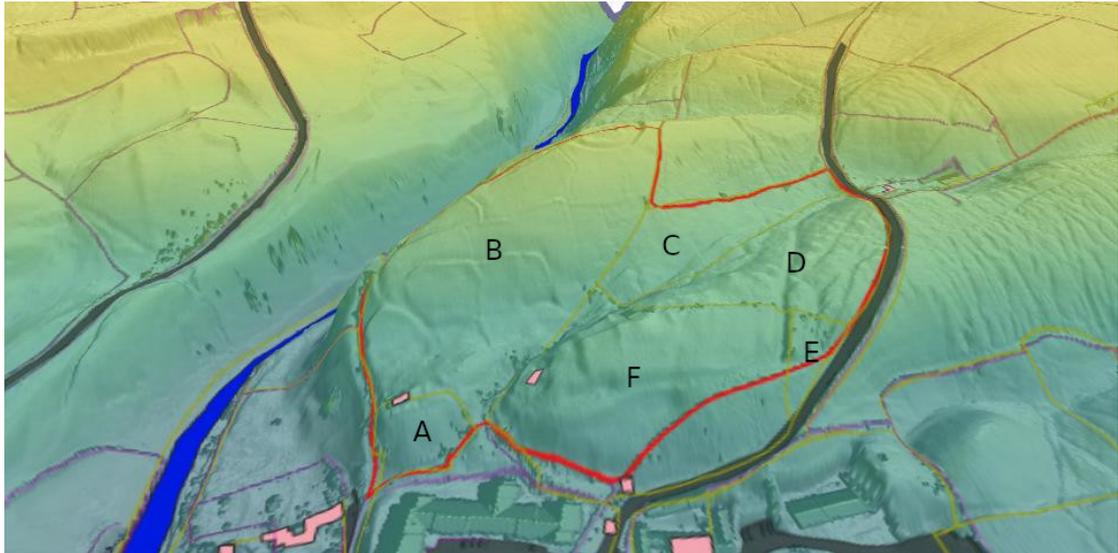


Figure 05 - Land parcels shown on the 1856 Ordnance Survey map (yellow) draped on a 3d model of the terrain generated from Environment Agency 1m DTM LiDAR data, shown with a vertical exaggeration of a factor of 3. Looking south

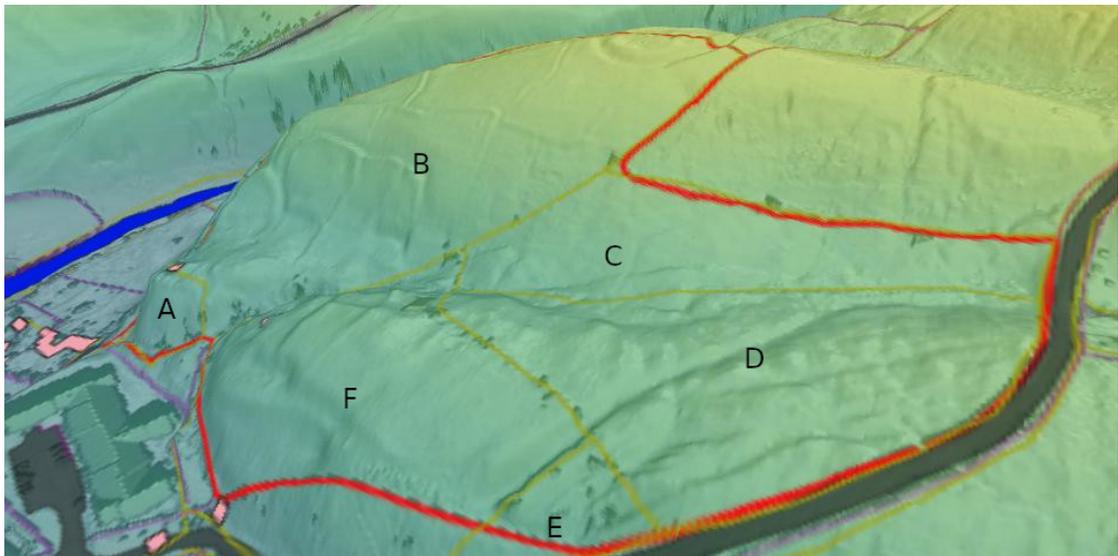
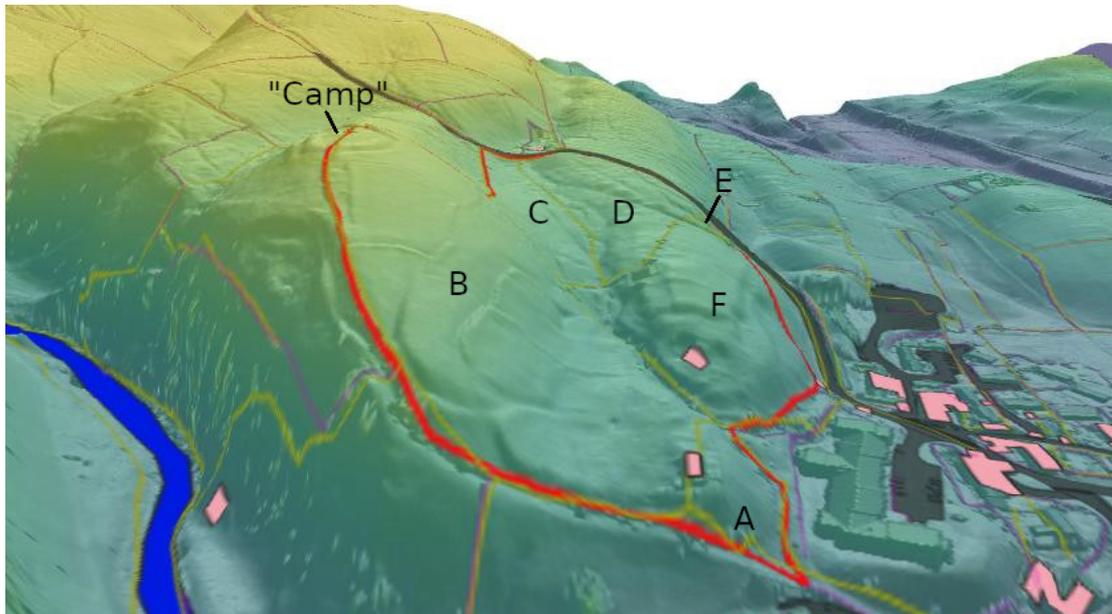


Figure 06 - Land parcels shown on the 1856 Ordnance Survey map (yellow) draped on a 3d model of the terrain generated from Environment Agency 1m DTM LiDAR data, shown with a vertical exaggeration of a factor of 3. Looking SE.

On both maps, land parcel A is curiously small and potentially of limited utility (Figure 04; 06). It contains a field barn (1) which was already present by 1854 (when the 1856 map was surveyed) and that still exists. There are a series of foundations around this building (Figure 09), suggesting significant modification to its layout. The barn occupies a flattish terrace; the rest of the land parcel consists of land sloping away from this terrace; steeply on the north and east and more gently on the west. On the north, east and possibly NW sides the boundary of parcel A appears to be formed by or defined by terraced track ways. The southern boundary is located close to the break of slope at the top of the terrace. The western boundaries of this land parcel are '<' shaped.

The majority of land parcel A is on a gradient; there are few intelligible earthworks in the LiDAR but it should be noted that Moorhouse (2003, fig 97) maps a possible platform in the NW angle of the parcel boundary. This is broadly the location of a rabbit warren that is of significance regarding artefact distribution (see pottery report below).

Land parcel B was large and, in the LiDAR data, is mostly smooth surfaced. It contains what appear to be field system earthworks rising up the slopes of a spur of land (Figure 05; 06) occupied by the Slight Univallate Hillfort (marked 'camp' on the OS maps) in the southern part of the land parcel. The eastern and southern boundaries mostly respect the edges of a track way terraced into the hill side (Figure 05) which is now a public footpath; on the southern side (to the east of the 'hillfort') the boundary cuts across rectangular features identified by Moorhouse as stackgarths (Moorhouse 2003, fig 97). The SW boundary appears somewhat arbitrary as it just runs diagonally down slope and is not defined by landscape features except in the NW part: here the boundary however runs along a shallow valley containing a stream.



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Figure 07 - Land parcels shown on the 1856 Ordnance Survey map (yellow) draped on a 3d model of the terrain generated from Environment Agency 1m DTM LiDAR data, shown with a vertical exaggeration of a factor of 3. Looking west.

Figure 08 - Land parcels shown on the 1893 Ordnance Survey map within the Area of Investigation (dotted red line).

In 1856 the map suggests that land parcel B was open all the way to Bainbridge Hall, with the boundaries of land parcels A and F forming a constricted and funnel-like entrance between the grounds immediately adjacent to the Hall and the rest of the land parcel to the south. Unfortunately the mid nineteenth century Ordnance Survey map sheet does not give area measurements so it is not possible from the map to confirm that land parcel B was definitely considered to extend all the way to the south wall of the Hall. It did not by 1893: a wall is shown closing off the neck of the constriction and the areas of land parcel B and the grounds of the Hall are shown as separate parcels.

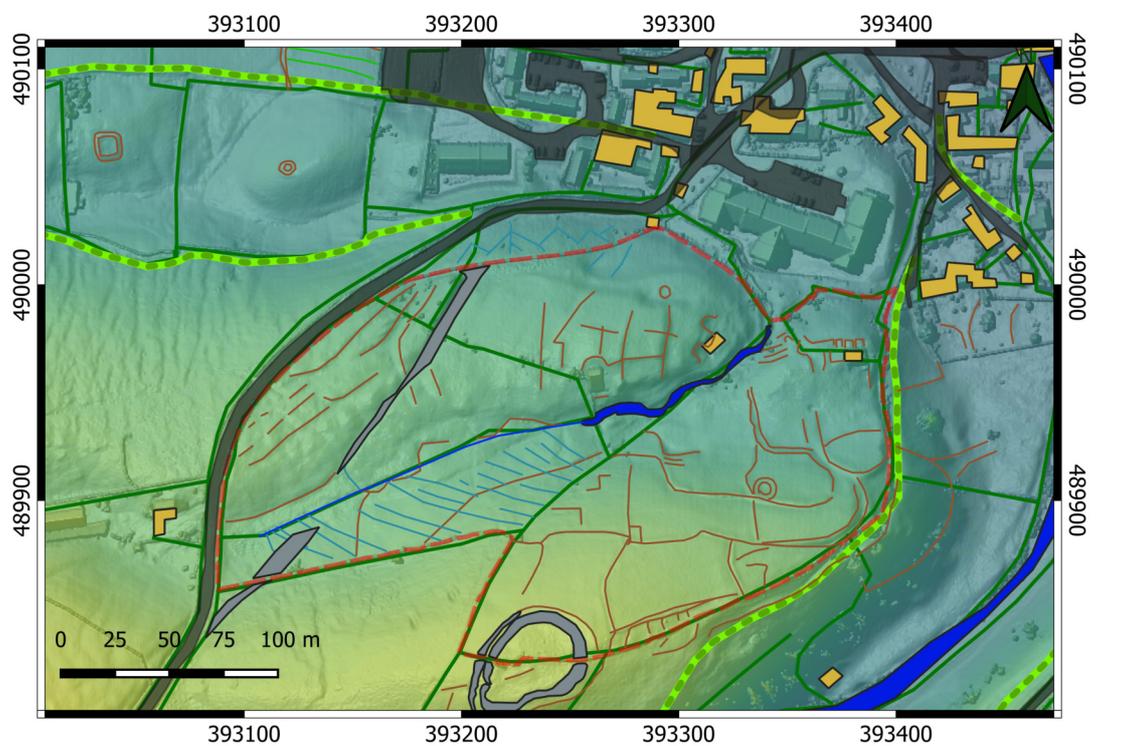


Figure 09 - Rough sketch of some of the earthworks seen on LiDAR. LiDAR basemap with land boundaries and buildings from the 1856 OS map.

Land parcel C (Figure 08) was originally divided in two, comprising land parcels C and D (Figure 04) in 1854. The boundary between the two land parcels appears to coincide along most of its length with the line of a culverted stream, visible in the field as a line of holes where the capping has collapsed. Care appears to have been taken to ensure that the 1854 parcel C was well drained: LiDAR shows a series of parallel land drains running diagonally to the culvert (Figure 09; 10). Either side of the culvert are curvilinear features that are likely to represent the former course of the stream before it was culverted. It is possible that more than one culvert is present as a linear feature with similar holes is visible in the LiDAR. A possible earlier land boundary and part of a large hollow way are the only other significant features visible in the land parcel (Figure 09; 10).

Land parcel D is very different in character to C; it can be seen to have a much rougher surface in the LiDAR and perhaps has not been ploughed or otherwise significantly improved, unlike most of the other parcels within the Area of Investigation. Land parcel D includes N-S trending features that are mirrored in the (apparently) unimproved land parcels to the west; it is possible these features may be late Pleistocene / early Holocene run-off features; certainly it appears that they are cut by the earthwork of the hollow way so must be earlier than it; the hollow way is assumed to be medieval or possibly Roman (see below). The most significant features in land parcel D are a relict stream channel near the culvert / boundary between parcels C and D, and a large hollow way (Figure 10). Other features in parcel D are harder to interpret but may include a number of eroded path / route ways, particularly in the area to the NW of the main hollow way: these may represent alternative paths taken when the relatively steep main hollow way was too wet and slippery to pass through (as at Threllesgata between Fremington and Marrick in Swaledale (Fleming 1998, 102;104)). Alternatively, and as

suggested by the angle of some which appear to head for the modern road, off the expected alignment of the medieval and earlier roads, some of these features may represent paths and shortcuts that came into being once the main route, directly assaulting and scaling Scott Hill through the hollow way, had been superseded by the more gentle gradient skirting around the contours of Scott Hill taken by the modern road (which was in its present course by at least 1854, and in respecting the contours is far more suitable for vehicular traffic than the more direct assault on Scott Hill represented by the hollow way).

The boundaries between land parcels C and D had been removed by 1892.

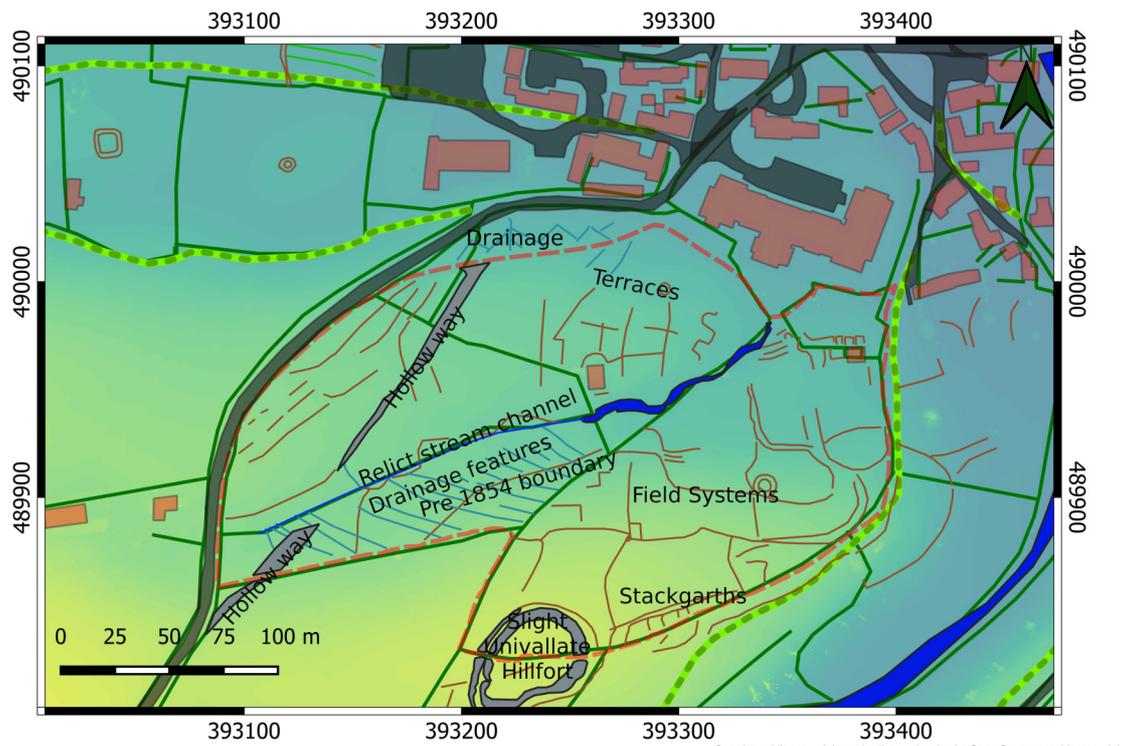


Figure 10 - Basic interpretation of the earthwork features. Basemap gives an indication of the elevations: colours range from yellow (high) to purple (low).

Land parcel E was shown as containing mixed woodland on both of the early maps. In 1856 the boundaries around parcel E are shown with a solid line. By 1893 (and later) the boundaries are dashed and it is indicated that the acreage of parcel E is included in the calculation for land parcel F on the 1893 map. This could suggest that land parcel E may not have had continuous and formal boundaries (such as a wall or hedge) separating it off from parcel F by this point: such may not have been entirely necessary as the eastern boundary is formed by the western edge of the hollow way (Figure 05), which comprises quite a significant feature at this point (also waterlogged in the base at the time of survey). It is likely that the awkward nature of this parcel, sandwiched between the two roads (earlier hollow way and later road skirting Scott Hill), resulted in its employment as woodland.

Land parcel F is marked as 'Scott Hill' on the maps. Scott Hill has seen significant human modification, with substantial terraces cut into its northern and eastern flanks (Figure 05; 06). One of the eastern terraces was occupied by a field barn in 1856 (Figure 04 no 2); this barn had been demolished and a new barn erected to the west by 1893 (Figure 08 no 4). The third barn (Figure 04 no 3) by the modern road survived on historic mapping until at least 1957, though whether it survived on the ground for as long is unclear. Land parcels E and F both lost their northern parts at some point in the later twentieth century, being absorbed into a Highways verge; barn Figure 04 no 3 is now located outside the modern land parcel and no longer exists. The most significant features in land parcel F are the terraces cut into the slopes of Scott Hill. The summit of the hill features a number of parallel and perpendicular lines that might relate to cultivation or subdivisions of the land. The SE boundary of the parcel takes in a stream; at the southern corner of the land parcel the stream formerly emerged from

its culvert under the western field boundary wall (the latter is now ruined and the culvert has collapsed on the western side of the wall) into a triangular area to the south of field barn Figure 08 no 2; the stream then flows NE down a rather straight channel lined with large quantities of stone: the latter may be deliberately laid.

The boundary wall between parcels C and F (Figure 08) survives as a discontinuous line of rubble foundations in the modern land parcel. The stones from several of the (then) surviving boundaries in the Area of Investigation were removed in the 1990s by the present land owner's father to construct a garden south of Bain House; these included parts of the wall between parcels C, F and B (S Crossley pers comm).

That the stream was culverted in parcel C is interesting. It has been suggested that this may have been done to prevent livestock concentrated in the land parcel from soiling their water supply; if this suggestion is correct then a high concentration of livestock might also be the reason that such care was taken over the drainage of this particular land parcel in the form of all the land drains running to the culvert seen in the LiDAR data. A concentration of livestock could be necessary for reasons such as dipping or washing: the livestock may have been driven here from the upland commons and concentrated in land parcel C before being dipped in the wide part of the stream in the southern corner of land parcel F (J. P. T. Gardner pers comm).

## **Project Scope and Objectives:**

The primary objective of the work was to train delegates in archaeological surveying. Once it was realised that artefacts were present on ground disturbed by passage of sheep and burrowing of rabbits, a secondary objective (and the only objective reported on here) became to record these artefacts in the hope that they could contribute to a discussion on the nature, form and chronology of human activity on the site.

The scope of the work reported on here was to examine, in an unsystematic manner, as much of the surfaces of exposed earth as possible within the site and to produce a report detailing the resultant assemblage and its potential. As further work is planned on the site it is not intended that this report will be comprehensive in terms of background research. It was also not intended that the report on the pottery should be comprehensive or exhaustive in examination of excavated assemblages from the region and a review of the published literature - it should be seen as an interim statement that will be reviewed, revised and probably superseded if / when the proposed research project occurs.

## **Methodology:**

The land parcel was visited on 26 and 27th of April 2018 and again on 22-24 November 2018. At the outset of the project there was no expectation that artefacts would be encountered during the fieldwork; the land parcel in question is pasture and the work to be undertaken was an archaeological surveying training course. An initial walkover to examine the earthworks within the land parcel on the first day (26th April) fortuitously encountered artefacts exposed on eroded ground surfaces. The artefacts found on the first day were recorded using GPS as detailed below but, where in close proximity (e.g. in rabbit burrow spoil within an approximately 5m spread), the artefacts were grouped and only a single point was recorded. The artefacts found on the second day were recorded individually as detailed below. The collection of artefacts on the first day was not systematic and did not seek artefacts on all exposed surfaces within the land parcel. It merely recorded them when encountered.

On the second day of survey training (27/04/2018) a slightly more systematic examination of the ground surface was undertaken with the aim of recovering a more representative sample of the artefact population on the ground surfaces across the whole site. Though searching was slightly more systematic, no grids or transects were set out; the land parcel was simply walked over and all areas of erosion seen were examined. Discreet patches of erosion (such

as individual rabbit burrows or sheep scrapes on slopes and near trees) were examined in their entirety; larger areas of erosion (such as the sides of slopes, e.g. Plate 04, 05) were walked up and down to cover as close to 100% of the exposed surface as possible. However, the lack of grids or guide transects means that total coverage is not guaranteed. All the finds reported on here should therefore be considered 'chance finds'.

In November a similar approach to that of the 27th April was employed, the primary difference being the method of recording.

The summit of the hill containing the Scheduled Monument of the Slight Univallate Hillfort was not examined for artefacts; an area of at least fifteen (15) metres from the visible outside edge of the earthworks belonging to the Monument was excluded from examination to ensure the Scheduled Monument was not impinged upon.

#### RECORDING AND PROCESSING - APRIL:

There was no conscious bias in the searching: artefacts of all classes and periods were sought, excepting modern plastics, rubber, concrete and similar materials (though these were examined and if in doubt were collected). However, particular attention was given to pottery, worked flint, clay tobacco pipe and glass, with examples of any period collected. Ecofacts, such as animal bone and wood, were not collected or recorded due to their likely modern date. Each artefact was assigned a unique alphabetical identifier (aside from the first four which were grouped as AAA, above) beginning at AAA and incrementing AAB, AAC, etc, until AAZ, then ABA, ABB, ABC, etc. Artefacts from April were bagged with the site code BBR18 and their unique alphabetical identifier. The ten (10) finds from the first day were retrospectively assigned codes within this sequence, having initially been recorded using verbal descriptions (e.g. 'base', 'burnt', 'thick orange glazed', 'berth' etc).

The location of each find was recorded using the navigation grade Global Positioning Sensor (GPS) built in to a Samsung GT-S5830i Galaxy Ace mobile telephone, logged by Antimap Log software. Prior to recording each point the accuracy of the device was checked using Google maps software. GPS reception on the site as a whole was (subjectively) noted to be quite good, so recording of each point was only initiated once Google maps reported a positional accuracy of +/- 5m, the highest accuracy possible with this software on this device.

For each find location Antimap Log was used to record a continuous series of points for between 20 and 30 seconds in order to allow averaging out of potential abnormal readings and to increase the positional accuracy. Each point was recorded with the unique identifier assigned to the find in question. For many (but not all) of the finds photographs were taken showing the general location of the find spot and any significant local features that may aid positioning (such as relation to nearby earthworks, trees, field boundaries, corners of buildings etc).

The CSV coordinate files in WGS84 Latitude / Longitude format created by Antimap Log were downloaded to PC and opened in MS Excel. They were batch converted to OSGB36 British National Grid coordinate format using an online conversion tool (Gridreferencefinder.com 2011). This tool does not specify which transform it uses and outputs whole number coordinates. Previous work recording casual finds from mole hills in Nottinghamshire has examined the accuracy of conversion and rounding employed by the batch conversion tool in comparison to the more accurate (mm accuracy) British Geological Survey online conversion tool (BGS 2018); this latter tool uses 'Oracle Spatial 10g coordinate transformations using approved (recommended) EPSG codes for BNG, WGS84 and ETRS89, which are 27700, 4326 and 4258 respectively' (BGS 2018) and gives a more accurate BNG output but at time of writing requires the individual input of each co-ordinate to be converted, which is not practical for the thousands of points recorded by Antimap Log. These comparisons have indicated the batch converted data were correctly translated and that the rounding to the nearest metre, particularly when considered within the context of the accuracy of the device in question, produces no loss of precision.

The translated data were imported into QGIS Geographical Information Systems (GIS) software for visualisation and analysis.

In ideal conditions (5m or less positional accuracy), once converted, the Antimap data may plot out with all readings at a single co-ordinate or with the readings distributed between a series of adjacent co-ordinates. This may be due to the rounding to whole numbers that occurs in the batch conversion process; slight movement of a few centimetres of the user or drift of the GPS device while recording a point that happens to be at the corner of four British National Grid 1m squares, for example, may result, once rounded up during the conversion process, in the logged data plotting over an area of 2x2m. Plotting of readings to different co-ordinates may also occur as a result of drift of the GPS device, and loss of accuracy due to trees, buildings, etc.

The spread of recorded GPS locations for each individual find spot were visually assessed and a single vector point for each find spot created. Where all GPS points plotted at the same co-ordinate the vector point for the find spot was placed at this co-ordinate. Where the GPS points plotted at multiple, adjacent, co-ordinates, if the majority (c.80% or greater) plotted at a single co-ordinate with the others at immediately adjacent co-ordinates, the vector point was placed at the location of the majority co-ordinate. Where the readings plotted relatively evenly between two adjacent locations the vector point was placed between the two co-ordinates, with distance from one or the other determined by the split (e.g. with c.50% of the readings at one co-ordinate and 50% at the other the vector point was placed between the two; with a 70%-30% split it was placed closer to the co-ordinate with the 70% of readings). Where points plotted out at non-adjacent co-ordinates this indicated loss of GPS accuracy during reading; photographs of the find location were then consulted to determine the location of the vector point for the find spot.

The photographs and cursory written description of the locations of the finds were used to check the accuracy of the GPS co-ordinates in relation to the features shown by the LiDAR. Where necessary, and where the detail on the photographs and the LiDAR permitted, the position of the vector points for each find spot were moved to bring them closer to the actual find spot. The resultant vector map of the find spots was used to produce the distribution maps of the finds; the original data used to produce these as described above is retained in archive.

#### RECORDING AND PROCESSING - NOVEMBER:

The collection policy was the same as for April, with the exception of animal bone, which was collected this time due to a number of fragments of calcined bone noted in the rabbit burrow spoil. The finds were bagged and recorded individually, as before, with codes beginning ACA and incrementing ACB, ACC etc through to ADA. It had been found that the limited relative accuracy of the navigation grade GPS system (see Historic England 2015, 11) used in April was unsatisfactory when the precise location of find in relation to earthworks was desired. Consequently, all finds in November were recorded using a Leica Geosystems TS06 total station measuring to a staff mounted prism. The total station had been set up and orientated to British National Grid using three survey points of known position previously established within the land parcel. The position of the finds from the November survey are therefore accurate to a minimum of +/- 0.01m.

#### MAPS:

To produce the base maps on which to display the data, digital terrain and surface models of open source LiDAR data provided by the Environment Agency were used, visualised through various raster terrain analysis algorithms in Geographic Information Systems software (QGIS).

The pottery and other finds were processed in line with the methodologies detailed in the finds report appendices.

## Results:

A total of seventy (70) objects were recovered from sixty five (65) locations within the Area of Investigation at Bainbridge (Figure 11). No excavation or disturbance of the ground occurred during the survey. The finds were all recovered lying on the ground surface disturbed by natural processes (eg Plate 01; 02). They were visible as a result of erosion and disturbance of the ground surface. This had predominantly been caused by the passage of sheep (Plate 01, 04; 05); the erosion caused by the sheep was most prevalent on the sloping parts of the site. Other disturbance was a result of the action of rabbits excavating burrows. This was fairly insignificant (e.g. Plate 03) with the exception of a warren close to the base of a slope in the NE part of the site (Plate 06).

No attempt was made to remove or interfere with vegetation that obscured the surface (particularly nettles on the rabbit hills, Plate 06) though this would almost certainly have revealed more artefacts on the surface of this spoil. However, during the second survey some of the taller nettles and stalks were cut down using a cane, though this did not result in disturbance of the ground surface.



Plate 01 - Find AAH, medieval Tees Valley ware jug sherd (arrowed) as found on surface of ground. Toe of size 10 boot (right) for scale.



Plate 02 - Find ABE, post medieval brown glazed earthenware jar or chamber pot (arrowed) as found amongst nettles

Erosion was noted to be most prevalent on the slopes within the Area of Investigation; aside from rabbit burrows there was little disturbance of the more level parts of the site. The overall distribution of artefacts (Figure 11) reflects this, with the majority having been found on slopes within the site.



Plate 03 - Location of find ACX (marked by yellow flag) in rabbit spoil, looking SE.

The finds consisted of pottery, iron, clay tobacco pipe, glass, ceramic building material and animal bone. A total of sixty (60) sherds of pottery, representing a minimum of fifty six (56) vessels, was found. A single crumb of fired clay may be of prehistoric date (Figure 13) but the majority of the pottery dates from the Saxo-Norman period to the twentieth century. Of this, just 39% by vessel count or 20% by weight, is of modern (late seventeenth / early eighteenth to twentieth century) date (Figure 19). The remainder is earlier and is provisionally dated between the twelfth to sixteenth

centuries (Figure 14 - 17; Plate 08, 09). More detail on the pottery can be found in the pottery report below.

Three iron objects (Figure 18 - note; two immediately adjacent iron artefacts were recorded under the single finds code ACV as it was suspected they were broken parts of the same

object) include a horseshoe that is typologically of mid-fourteenth to sixteenth or early seventeenth century date: it appears to have been accidentally lost as it still retains several of the nails that formerly held it to the hoof. The other two iron objects are of uncertain form and date.



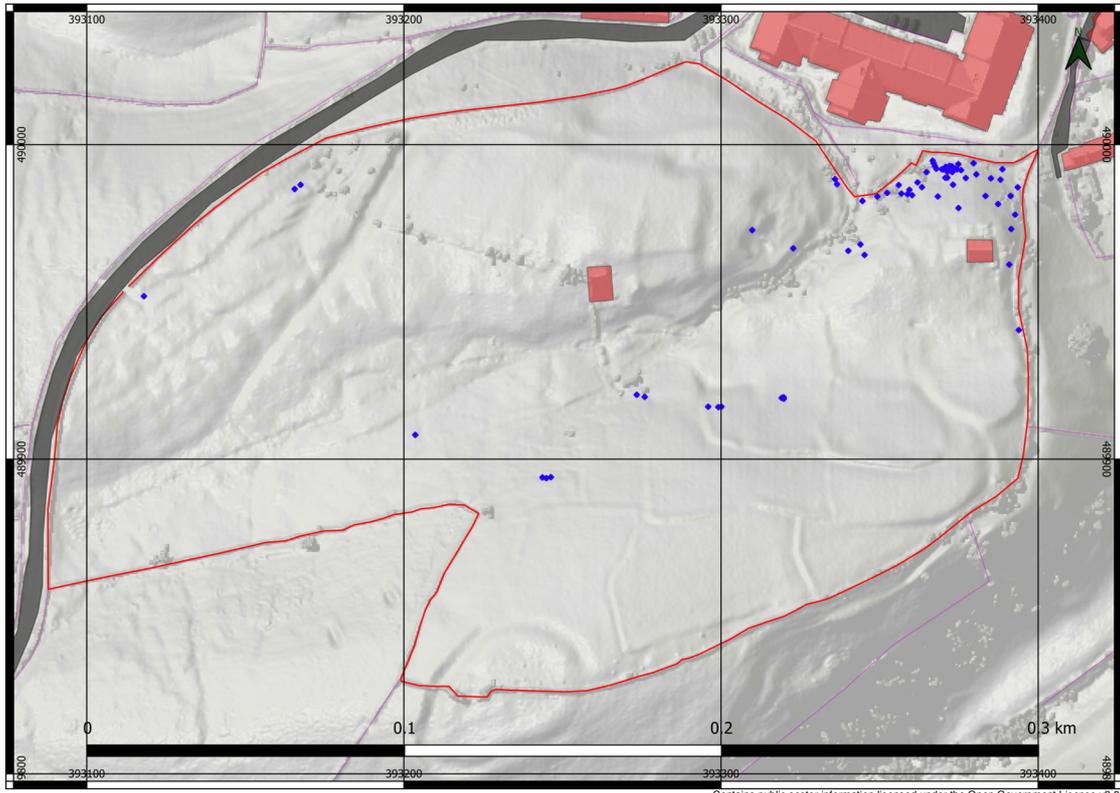
Plate 04 - Looking NE, from the banks of the stream, across the NE part of the site showing erosion of the ground by sheep particularly on the terraces on the hill slope.



Plate 05 - Looking down slope and NW towards Sycamore Hall, showing patches of bare earth exposed on the slope by the passage of sheep

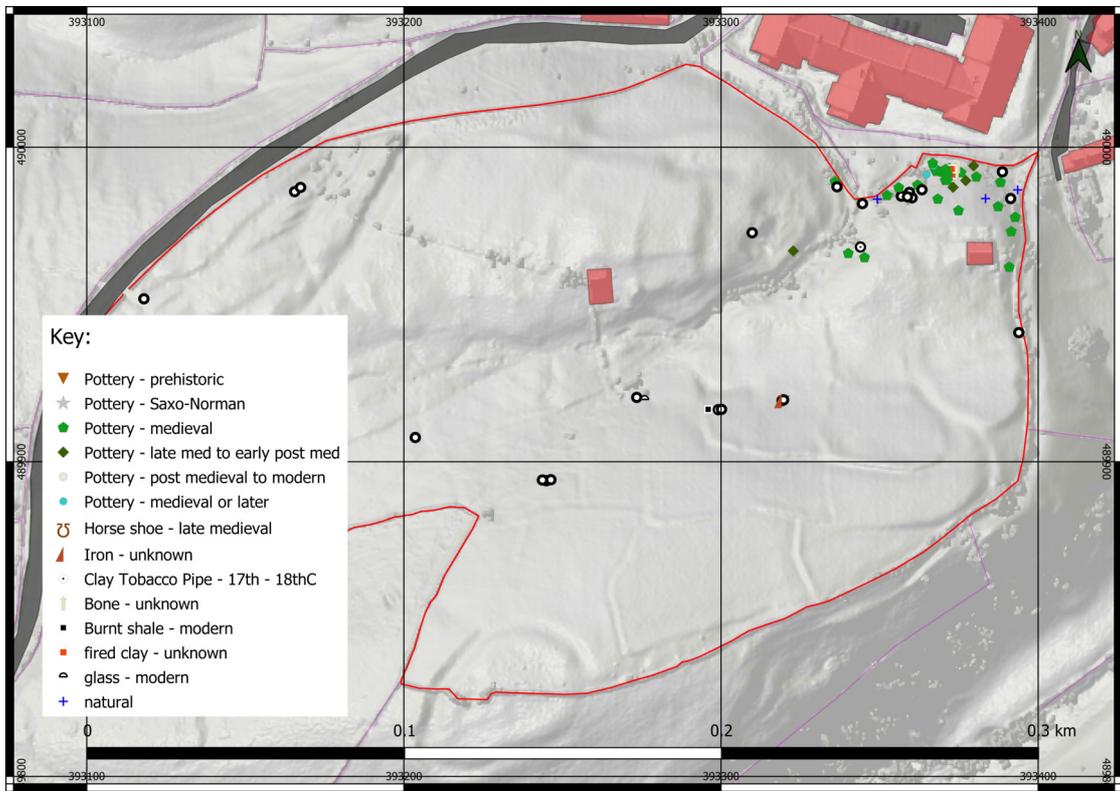


Plate 06 - Looking in the same direction as Plate 05 but from a position slightly further west, showing rabbit burrows with nettles growing on spoil from the warren.



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Figure 11 - Distribution of finds (blue diamonds) from both surveys within the Area of Investigation (shown in red). Basemap shows earthworks displayed via 0.5m resolution LiDAR data displayed as a relief model with a Z factor of 5.



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Figure 12 - Distribution of finds by period and type in the Area of Investigation (red polygon)



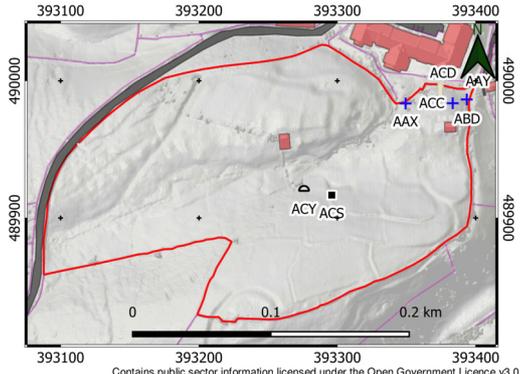


Figure 21 - Distribution of animal bone (white arrows); glass (semicircle); burnt shale (black square) and natural stone (blue crosses)

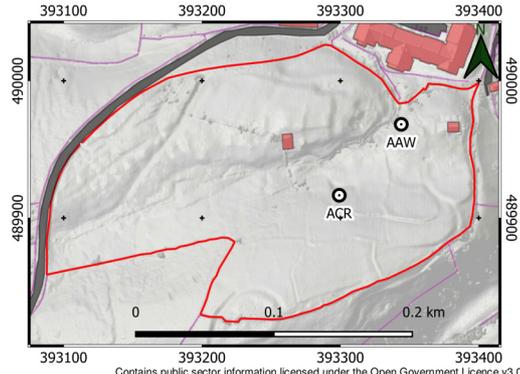


Figure 22 - Distribution of clay tobacco pipe fragments

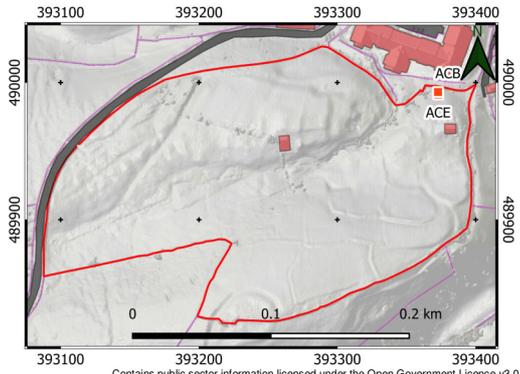


Figure 23 - Distribution of fired clay fragments

Two pieces of clay tobacco pipe stem (Figure 22) cannot be dated more closely than the seventeenth or eighteenth century; one has a mouthpiece formed by a simple cut.

The single piece of glass (Figure 21) is of modern (nineteenth century) date.

The fired clay / ceramic building material (Figure 23) included part of what is likely to have been a post medieval / modern brick or tile and a piece of fired clay with burnt out straw / organic inclusions. The latter

could be of any date but is perhaps unlikely to be modern. It might be daub, from a wattle and daub structure that burned down; hearth or oven lining; a fragment of a clay mould for casting metals; etc.

The two fragments of animal bone (Figure 21) have been calcined. They were found in the same area as most of the medieval pottery so could be of medieval date. They could alternatively represent modern food waste scavenged by the jackdaw colony that nests in the large tree overlooking this part of the site.

In addition to the above humanly modified artefacts, four of the objects collected as possible fired clay proved to be natural (lumps of limestone and ironstone) once cleaned. To avoid unexplained finds codes with no associated artefact, they are catalogued below ('codes assigned to finds later discovered to be natural') and their distribution is shown in Figure 21.

The distribution plot of all recorded objects indicates that finds were not recovered evenly across the Area of Investigation (Figure 11). It is notable that most of the finds are clustered in the NE corner of the site. Figure 13 shows the location of these finds, graded by period, on the LiDAR relief model of the site. It can be seen from these two figures that while finds were



Plate 07 - Looking SW up slope towards field barn 1 showing find spot of jug sherd AAH (arrowed)

recovered sparsely from all across the Area of Investigation, medieval and early post medieval finds were mainly found in the NE corner of the Site.



Plate 08 - Selection of medieval and early post medieval ceramics recovered during the investigation in April . Scale is 10cm long, with small divisions of 1cm.



Plate 09 - Selection of medieval sherds from the survey in September. Scale 10cm with 1cm divisions.

The artefacts in the NE part of the Site are almost all located on the slopes of the first significant hill south of the modern settlement of Bainbridge (Figure 06). The terrace at the summit of this hill contains a field barn of relatively modern date (certainly already present by 1856), along with foundations of walls or earlier buildings to the south and west (Moorhouse 2003 fig 97). The ground drops away from this platform to the north (eg Plates 07; 05; 11) and east quite steeply; it falls more gently to the west

towards the stream (Plate 04). To the south of the barn there is an area of fairly flat ground before the ground again rises, up the side of the spur occupied by field system earthworks and topped by the Slight Univallate Hillfort (Figure 07).

The majority of medieval finds are located at, or towards, the base of the northern slope of the hill. Some, including the horse shoe AAQ and the large, fresh sherds of Reduced Green Glazed ware jug or cistern ABI, were recovered from on or near the base of the slope, while others, such as the possible Saxo-Norman base sherd ABG, were recovered just above the base of slope (Plate 11). The horse shoe AAQ and large fresh sherd of Northern Gritty ware base AAC were found in the spoil excavated by rabbits. In this location there is a fairly large warren with multiple entrances. A significant quantity of spoil excavated from this warren has built up at the base of slope (Plate 10); the extent of the warren is indicated by nettles and

other growth and is shown on Figure 24. As can be seen from this figure, eighteen of the artefacts were found in the spoil from the rabbit warren.

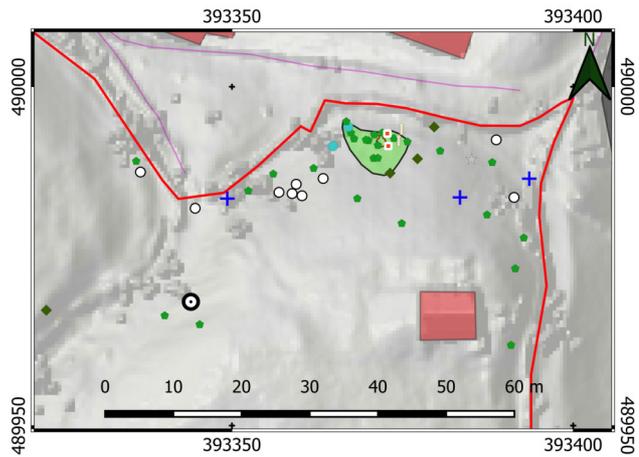


Figure 24 - Location of disturbed ground associated with rabbit warren (stippled green area). For explanation of symbols see key on Figure 12

Other finds were recovered from further up the slope, such as Tees Valley Ware jug AAH from approximately half way up the slope (Plate 07 and 01) and hand made Northern Gritty Ware sherd ABA, on the eastern slope of the hill. The three joining Reduced Green Glazed ware sherds ABI were found in close proximity on top of vegetation at the base of the slope adjacent to the land boundary (Plate 12); the vegetation provided a more or less unbroken carpet at this point so the finds cannot have been eroded out of the underlying soil: they most likely eroded out from higher up the slope or were dug out by

the rabbits and then rolled, or were kicked, downhill to their find spot. The three sherds have relatively fresh breaks, suggesting they have been broken recently (probably due to trampling once they reached their find spot). Additionally, there is a fresh break for which no joining sherd was located (triangular hole at bottom of sherds ABI on Plate 08). Despite a fairly concerted search of the vegetation in the metre or so around the find spot this missing sherd could not be found, suggesting it may have been kicked out of sight by the sheep.



Plate 10 - Location of rabbit burrows (spoil mounded above base of slope immediately to right of centre of frame) and find spot AAF (in bag towards left side of frame in relation to flattened terrace at base of slope (at right hand side of photograph), looking west.



Plate 11 - Looking east showing locations of finds ABG (closest) and ABF (red arrows) near base of slope, along with flattened area between the break of slope and the land parcel boundary.



Plate 12 - Three joining sherds of Reduced Green Glazed ware ABI as found on the surface of vegetation. The three sherds are in the centre of the photograph: the similar looking object at lower right of frame is a fragment of tree bark.



Plate 13 - Location of find AAV (white bag). Looking NW across stream towards the platform on which the 1856 field barn 2 was located (see Figure 04); location of visible foundation marked by ranging poles.

The degree of erosion of the slopes was dependant upon gradient (the steeper the slope the more erosion had taken place). While it was subjectively considered to be worse in the NE part of the Area of Investigation the other slopes in the land parcel were also eroded. Despite this, finds on eroded slopes away from the NE corner of the Area of Investigation were sparse (e.g. Plate 13). The majority of finds in the rest of the land parcel came from isolated patches of bare earth, such as a sheep scrape where finds ABO ABN and ABP were located, or where single rabbit burrows had thrown up spoil, as was the case where slip coated ware sherd ACX was found (Plate 03); the same was true for the small group consisting of possible prehistoric pottery crumb ACT, modern white ware ACU, miscellaneous iron ACV and late seventeenth - eighteenth century mottled ware ACW.

## Discussion:

### Artefact distribution:

The finds were all, apart from ABI, recovered from areas where the ground surface had been disturbed and the underlying soils exposed. The ground disturbance had been caused by livestock and by burrowing animals. The erosion caused by livestock was most significant on the steeper slopes within the land parcel and negligible on the flatter parts; the rabbits were also seen to have preferentially burrowed into ground with a gradient. The primary factor governing the overall distribution of recovered artefacts was, therefore, the presence of disturbed ground.

This can be seen in the distribution plots; the finds are concentrated on the steepest slopes and largely absent from the rest of the land parcel. However, within this overall distribution determined by the topography, there does appear to be patterning.

The medieval and earlier post medieval pottery and other finds were all concentrated in the NE part of the Site. The large rabbit warren in this area accounted for many of the finds, but there were still a reasonable number that were eroding out of the topsoil away from the warren. The slopes in this corner of the site did seem, subjectively, to be somewhat more eroded than elsewhere. This may be due to the concentrating effect of the field boundaries here and the natural shelter provided by the lie of the land and the large trees overlooking it, all of which may combine to make this part of the site more attractive to the livestock in bad weather than the other, more exposed, parts of the site. The greater degree of erosion could account for the higher quantity of medieval and later pottery in this part of the site. However, the finds came predominantly from the north facing slope; the east facing slopes along the eastern boundary of the Area of Investigation were judged to be equally as eroded as the north and west facing slopes of the NE corner of the Area of Investigation but these east facing slopes yielded far fewer finds. Similarly, no medieval or early post medieval finds were recovered from any of the eroded patches elsewhere on the site, while later finds were. This appears to indicate that meaningful patterning that may reflect past land use exists within the finds distribution plots.

Finds of later periods had a wide but sparse distribution across the slopes in whole of the modern land parcel. The later material was in some cases found in association with ash and partially burnt coal and this, together with its condition (small abraded sherds, some showing signs of having been burnt), suggests it originated as domestic waste (for example, ash and burnt material made up approximately 80 - 90% of all domestic waste (in London) in the late nineteenth to early twentieth century (Licence 2015, 7, 105)). This, and the distribution of this material, suggests it may have originated as domestic waste spread on fields, either as an improver (e.g. fertilizer etc) or, perhaps less likely, simply as a means of disposal. The spreading of waste on the fields need not necessarily imply arable cultivation: in the early nineteenth century agricultural writers suggested that manure should only be spread on pasture land: lime, rags and ash were supposed to be spread instead of manure on arable land (Gerrard 1997, 70). The finds could therefore have arrived in manure or as contaminants in ash. The greater concentrations in former land parcel B (Figure 04) may suggest this parcel saw more material spread over it but may alternatively simply be a product of the steeper slopes in this parcel.

The medieval pottery on the other hand shows significant clustering and a reasonable proportion of the sherds are of relatively large size and are in very fresh or fresh condition (see pottery report below). This appears to indicate that there has been little disturbance of this material after its initial deposition. As a result, it may not have moved far from its place of original breakage (e.g. an occupation site), discard (e.g. domestic midden in back yard) or disposal (e.g. thrown into a ditch, or the contents of a midden scraped up and taken to the fields as manure).

Allowing for variations caused by differing levels of erosion across the land parcel, the concentration of earlier pottery in the NE part of the site appears to represent a significant anomaly. Even allowing for burial of earlier deposits under later colluvium or human earthmoving, it is probable that had medieval ceramics been present in equal quantities across the whole modern land parcel then at least one or two sherds would have been recovered from other locations within the modern field.

As such, it seems plausible to conclude that the medieval and early post medieval finds relate to some kind of human activity that was spatially constrained to the NE part of the land parcel.

Was this activity in-situ or were the finds brought here from elsewhere and dumped on the site at a later period? Only a few of the finds were encountered at the base of the slope; many were on the hillside and some were found a distance up the slope. A lack of erosion on the summit prevented examination of this area. It seems unlikely that the finds were brought from elsewhere in the settlement and dumped here. If manure (containing pottery) was being taken from farmyard (perhaps the yard south of Bainbridge Hall or around Bain House) to farmland (such as the field system earthworks in land parcel B (Figure 04)) it is possible that some would fall off the cart, barrow or other means of manure transportation on the way; this might be expected to fall to the bottom of a hollow way but would seem unlikely to accidentally spread up a hill bordering said hollow way, especially where the slope is steep as it is at Bainbridge. If manure is being taken to land it is also likely that more of the manure, and therefore a higher quantity of the pottery in the manure, would be spread at the intended destination rather than being lost on the track to the land. This should result in a higher quantity of pottery to the south or west of the find locations, in the area where the putative land to be manured is likely to have been.

The distribution of the finds on the hill slope as well as at the base makes it far more likely they relate to activity on the summit of the hill and that they were discarded or have worked their way down-slope from such activity, rather than deriving from activity at the base of the slope which produced waste that was for some reason carried or thrown up the hill to be discarded. The same would apply to material dug out of the adjacent land parcel to the north, for example during the construction of Sycamore Hall. Such spoil may have been spread at the base of the slope to level the ground but it is highly unlikely that construction workers or the land owner would have gone to the effort of transporting such waste uphill to spread it, especially when this would have had to be done, at least in recent times, within sight the residence of the landowner of the present land parcel. The precursor to Sycamore Hall was built in the late 1970s and rebuilt in its present form in the 2000s and no spoil from either construction was dumped within the Area of Investigation (S Crossley pers comm). The presence of the field barn at the top of the slope from at least 1854 suggests that any levelling of the platform here took place well before Sycamore Hall was constructed, making it unlikely that recent construction spoil from the village, happening to containing pottery and other artefacts from in the village, was dumped at the top of the slope to level off the terrace, at least in recent times.

There is, however, the possibility of soil being moved here from elsewhere in the settlement perhaps for the purposes of gardening. The HER record for the Old Hall suggests that the south face of the building was once the principal face and that the north face, onto the village green, only became the principal face in the nineteenth century (YDNPA HER MYD34363). It might be expected that a post medieval house with any pretension of grandeur would have gardens in front of its principal face. It is possible, if the land in the Area of Investigation was then in the ownership of the Old Hall, that gardens or landscaping may at least have extended up the slope on which most of the medieval ceramics were found. If so, soil containing artefacts could have been brought from elsewhere to modify the shape of the slope or to form terraces or other garden features on the hillside. Against this is the fact that there appear to be no signs of earthworks that can readily be interpreted as garden features on the slope, though Moorhouse does map a terraced ?building platform at the base of slope, in the vicinity of the rabbit warren (Moorhouse 2003 fig 97).

The possibility of the medieval pottery arriving on the site with imported soil, perhaps from within the village of Bainbridge, thus seems unlikely, but the evidence is at present insufficient

to exclude the possibility. However, it seems more likely that the finds derive from activities at the top of the slope that may have involved the use, and certainly discard, of pottery and other finds.

The range of ceramics indicate that this activity may have been long lived; in its earliest form it may be of Saxo-Norman date and was probably occurring at the least by the twelfth to early thirteenth century; it may have continued until the fifteenth or sixteenth century. A range of ceramic vessels indicate that the heating of substances in jars, possibly using several different techniques, and the containment of liquids in jugs, was represented as a minimum. It is perhaps most likely that domestic activities, such as cooking and serving of food and drink, are the activities represented, rather than specific industrial or agricultural processes. If the activities were domestic in nature, the evidence suggests it continued at this location for a sustained period of centuries, but there is at present no evidence to indicate whether it was general and permanent occupation or seasonal and task specific. It is also possible that the nature of activity may have changed from generation to generation, or within generations.

The very fresh condition of some of the sherds (see pottery report below) suggests that they have not moved far from their place of original deposition and were not located in cultivated soil or exposed on surfaces where they could be trampled by people or animals prior to burial. The calcined animal bone was found in the same area as the bulk of the medieval pottery. These bone fragments may have been the remains of food waste brought to the site in recent times by the jackdaws that live in a colony in one of the large trees that overlook this part of the site. Alternatively, it may indicate the cooking of meat on the site if it was associated with the medieval activity. It is likely that only excavation could test this hypothesis. However, if the bone is contemporary with the pottery it could suggest that finds come from a domestic midden originally on the terrace at the top of the slope, and were dropped or have been working their way down slope since they were discarded.

The medieval and early post medieval finds were all in close proximity to the possible former manor house. It is debatable whether the medieval manor house was on the site of the seventeenth century building now known as the Old Manor (HER monument MYD34360) and described as Bainbridge (Old) Hall on the Ordnance Survey maps, to the north of the Area of Investigation, or was the precursor of Bain House (S Moorhouse pers comm via S Crossley pers comm), to the NE of the Area of Investigation. Whichever represents the site of the medieval manor, both of these sites are immediately adjacent to the slope on which most of the medieval finds were located. The platform at the top of this slope, on which field barn 1 (Figure 04) is located, is at a higher altitude (c.234m AOD) than the present village of Bainbridge, which lies between c.210 and 225m AOD. The location of the earlier finds appears to coincide quite closely with an enclosure (described as 'land parcel A' in Site Description, above (Figure 04; 08)) present by the time of the 1854 survey for the 6" Ordnance Survey map of 1856. The land parcel A is unusual in shape and size, seeming too small and steep for any particularly useful purpose and having a pointed western boundary that possibly formed a funnelled entrance into the grounds of the Old Hall or the village in conjunction with the adjacent land parcel to the west. More research into the landscape is required to try to explain the unusual form of the land parcel (was it, for example, part of a system to funnel livestock down into the village from the common pasture of Bainbridge High Pasture on the high land to the SW? Or perhaps on a smaller scale, to funnel livestock from the fields on the higher ground to the SW (land parcel B) into the yard of the Old Hall? Might the western and northern boundaries be established on the former course of a Roman road (see below Appendix 4)? The apparent concentration of medieval and early post medieval finds within land parcel A, together with the evidence for various foundations (some, but not all, of which may be modern; S Crossley pers comm) around the surviving field barn (barn 1, Figure 04), could suggest this land parcel is of some antiquity, and perhaps even raise the possibility that barn 1 occupies the site of an earlier building or buildings, possibly of medieval date, with the finds having moved down hill from activities within this building or buildings.

The find spot of the iron horse shoe is also of interest. It was in the midst of the medieval and later pottery, so it may simply represent waste, discarded along with the pottery. However, the shoe retained some of its nails, which may indicate that it was an accidental loss (though see finds report, below, for other possibilities). It was located at the bottom of the slope. The

ground at the bottom of the slope is notably level between the base of slope and the boundary wall (e.g. see Plate 11): it looks to be a track or pathway. Indeed it appears to be such as mapped by Moorhouse (2003, fig 97). It follows the contours to provide the easiest route from the village below (though whether this was from Bain House or from the end of the track to the immediate west of Bain House is uncertain) into the Area of Investigation and the common pasture on the high grounds to the south and SW. As is suggested below, this route is also the most direct and least steep route following the line of the Roman road Cam High Road and is one candidate for the route taken by the Roman road at this point.

Ultimately, however, as the finds under discussion are a surface collection it is impossible to interpret them with certainty - indeed it is at present impossible to rule out the possibility that they do not even originate as a result of activity on Site but may have been brought here from elsewhere at a more recent time. Further investigation, most likely excavation, is likely to be the only way to test whether the finds come from in-situ activity, whether the burnt bone is related to this, and what the nature of the activities were. Until such investigation is undertaken, any conclusions and interpretation offered must be tentative.

### **Wider significance:**

The ceramic assemblage is of significance in providing evidence of the medieval ceramics utilised in Bainbridge and more broadly in Wensleydale, areas where little study of medieval ceramics has taken place. Superficially, the diversity of fabrics spread throughout the medieval period appears to suggest that no single pottery production site dominated the local markets of Bainbridge and possibly Wensleydale; this may indicate that there were no pottery production sites in the vicinity of Bainbridge and that ceramics were sourced from a range of producers within the catchments of the various local markets and fairs within reasonable distance from the settlement.

This conclusion would seem to be supported by the relatively high proportion of Tees Valley type wares. These probably originated in the Tees Valley region to the NE of Wensleydale. Most of the sherds are from glazed jugs, though at least one jar (probably handled) is also identifiable. To bring in vessels from such distance may suggest that there were no producers of comparable products closer to the site. However, it could alternatively reflect the medieval ownership of the Site.

Despite earlier work suggesting that Tees Valley type wares were 'largely contained within the area bounded by the 200m contour both north and south of the Tees' (Sweeney 1985 in Didsbury 2010, 225) with the Hospital of St Giles, Brompton Bridge, at the 'extreme edge of the marketing area' (Didsbury 2010, 227), Tees Valley type wares are occasionally found in the Dales. They appear to be relatively common in Swaledale, where it has been suggested that 'the medieval pottery present was ... not clearly diagnostic [but] most of this material can probably be described as Tees Valley ware' (Vaughn nd '2015'); wares identified as Tees Valley type were found in SWAAG test pitting in Swaledale in tp2, tp25, tp47, tp49, tp52, ?tp57, tp58, tp61, tp62 (Vaughn nd, np). Swaledale, to the north of Wensleydale, is closer to the Tees Valley and may therefore more likely to be routinely supplied with Tees Valley wares. In contrast, there was just one identified example of Tees Valley ware from test pit 4 of the YAC / YDNPA test pitting project in Bainbridge village (Cumberpatch nd, 1). If the scarcity in Bainbridge village is genuine (and not simply a result of the test pits having been excavated away from mid thirteenth - fourteenth century activity foci for example), then Tees Valley type wares in the Area of Investigation would seem to form an unusually high proportion of the medieval assemblage. This could be due to the earthworks in the Area of Investigation being associated with the manorial farm (Moorhouse 2003 fig 97 caption). It might be that the manor, if it belonged to a lord with multiple holdings, was supplied with goods and produce (and thus the ceramic packaging in which it arrived) from the other holdings of the lord of the manor, which were closer to the Tees Valley. The inhabitants of the village, however, would have been more likely to obtain their goods and products from the local markets. The supply of manorial sites with goods and produce from other holdings can account for the presence of ceramics from distant sources outside their usual marketing range (Moorhouse 1983, 129-132XXXX). This is an interesting possibility, but can only be tested by further research and continued comparison between assemblages from different types of site in Bainbridge itself and from the local area.

### **Accuracy of GPS recording:**

Each find spot in April was recorded using navigation grade GPS, with the Antimap Log software used to log a continuous series of points for between 20 and 30 seconds with the GPS held stationary about 1m above each find spot. The logged points were converted to British National Grid co-ordinates as detailed in the methodology. The mapped positions as they appeared overlaid on the LiDAR data were then checked, and corrected as necessary, by reference to the photographs taken of most of the find locations and features visible on the photographs and the LiDAR.

As was noted in the Google maps software, an accuracy of +/-5m was obtained for each logged point, with the points plotting out within or less than this distance from the 'actual' position judged from features visible in the photographs of the find spots. While some of the GPS points plotted at precisely the position the photographs indicated they should be, many did not. These latter points did not correspond precisely with the find location in relation to the earthwork or topographical feature they were known to have been found with. For instance, several find spots known to have been on the slope of a hill were positioned by the GPS at its base; others found just beneath a ridge were placed by GPS on the platform above the break of slope. In these cases, the logged point had to be shifted to match the features visible in the photographs and the LiDAR data. In no case did this observed error exceed the +/- 5m accuracy. However, the error varied from logged point to point, meaning no overall correction could be applied.

This is to be expected of a navigation grade GPS device, of which Historic England says: 'navigation-grade equipment will not generally provide a horizontal position of sufficient accuracy to undertake detailed mapping. Taking repeated readings at a fixed location will result in a spread of points as the receiver calculates a slightly different coordinate each time ... so the relative accuracy is quite low when viewed at a large scale ... [a navigation grade GPS device] will not be sufficient for detailed planning of a site or for recording features relative to one another (Historic England 2016, 11).

While the use of this navigation grade GPS was an expedient solution to the problem of needing to record the positions of finds unexpectedly encountered during the first survey by the present archaeological unit on pasture land, the accuracy of the data was found to be insufficient on its own when the interpretation of the relationship between finds and earthworks and topography is required. Thanks to the photographs taken of most of the finds locations the GPS points could be corrected using the LiDAR data so the majority should have an actual accuracy of better than the +/-5m of the device. The mapped positions are at least broadly correct in relation to the major earthwork and topographical features they were found with. Such recording would, however, be entirely inadequate and inappropriate now it has been recognised that finds may be encountered in the land parcel and that it is critical to their interpretation that their precise positions in relation to earthworks and local topography should be recorded as accurately as possible. Navigation grade GPS should not be used for any future recording within the land parcel when other, more accurate, methods are available.

As these limitations were revealed when the data from the first survey were plotted, it was possible to ensure that a more appropriate recording methodology was utilised in the second survey. The finds from the second survey were recorded using a total station tied in to the British National grid, giving an accuracy of c.+/-0.01m. It is recommended that any future casual finds should, where possible, be recorded by total station, differential GPS, or be triangulated from mapped boundaries and features using measuring tapes.

## Conclusion:

The work at Bainbridge reported on here consisted of recording the positions of artefacts on disturbed ground. It was a rapidly conducted activity requiring little outlay in terms of time or equipment, and in only collecting artefacts disturbed from their original contexts by natural processes, it had little impact on the archaeological resource; the impact on the archaeological resource (the removal of the finds from the site) was mitigated by the recording of their positions within the land parcel and the information recovered from them, as presented in this report.

From such limited work, it has been possible to suggest that one particular area of the present land parcel may have seen previously unsuspected occupation from probably the twelfth to sixteenth centuries, with perhaps a midden or waste being deposited down slope from the activity area. The medieval activities that generated the waste may have focussed on an area where a field barn still stands and where foundations of earlier buildings are present as earthworks. The survey has also prompted a limited study of LiDAR data in conjunction with historic maps and the finds. This has suggested a number of possibilities, including the possibility that an earthwork track that forms the boundary of the land parcel containing the medieval waste might represent a former course of the Roman road, Cam High Road.

While these suggestions cannot be proven just by examination of a surface collection of finds, the artefacts recovered by the work has wider significance. The Yorkshire Dales are an area in which very little is known of the sources, types, chronology and supply of medieval ceramics. The assemblage recovered by this work allows an attempt to be made at answering some of these questions. Additionally, comparison of the ceramics from the work reported on here with those from recent test pitting in the village suggest these two assemblages have different compositions; the village assemblage is much less diverse (pers obs 11/2018) and particularly lacks the Northern Gritty wares and Tees Valley type wares while the site reported on here does not have the splashed wares and Humber wares of the village. These differences hint that, with further study, it may be possible to discern differences such as different status of ownership between the sites, or different spans of time.

Further, integrated and more detailed, comparison between these assemblages and any future assemblages recovered from Bainbridge and the surrounding area would be very useful in elucidating the nature of ceramic supply and use in medieval Wensleydale.

If the opportunity presents it would seem worthwhile to conduct further collection of surface finds within the Area of Investigation. Such survey would increase the finds assemblage from the site, potentially allowing refinement of the chronology of activity (particularly at the start and end of activity), and, as only a tiny percentage of the sub-surface artefact population is exposed at any one time by erosion of the ground surface, it may over time allow further activity areas to be identified, such as those that have a much lower proportion of finds (e.g. manured land). Additional finds from such work (and any intrusive investigations undertaken) should also be used to feed into the study of the ceramics of Wensleydale.

As such it is recommended that, should further work take place on site, finds should continue to be sought on the surface of exposed areas of ground as frequently as practical (probably seasonally, as animal action and natural processes rework the hill slopes); finds from such survey should be marked with flags and collected; each find should be recorded with a unique identifier and the location of all finds individually located to the nearest 0.5m as a minimum but preferably with an accuracy of under 0.1m; using either triangulation with measuring tapes from known points or via total station tied in to British National Grid.

## **Archive:**

The archive has been created and packaged in line with archaeological best practice and guidance, including the 'Standard for Pottery Studies in Archaeology' (MPRG 2016) and First Aid for Finds (Watkinson and Neale 1998). The archive consists of a copy of this report, a print out of the MS Access database entries for the pottery finds and the physical archive of artefacts that were retained. The archive should prove stable if stored within standard limits and it is not anticipated that the pottery will provide any long term storage problems.

The iron is unstable and will actively corrode if not kept in an environment of low humidity. It is currently packed in accordance with the methods detailed in 'First Aid for Finds' (Watkinson and Neale 1998) in an airtight Stewart plastics box with silica gel. The humidity indicator card on the front of the box should be checked at regular intervals of no more than two months, and the silica gel replaced with dry silica gel as appropriate.

The archive is presently held by Mercian Archaeological Services CIC and can be consulted by researchers on request. In due course it will be lodged with the land owner and, providing the posited further work occurs, may be included in the overall archive for the site, to be deposited with a repository yet to be decided.

## **Acknowledgements:**

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# Appendix 01: Finds: Metalwork Report

David Budge

## Methodology:

Metal artefacts were quantified onto pro-forma recording sheets. Weighing was undertaken using a Maplin VV52G digital load cell electronic balance calibrated prior to use with a 100 g weight and checked following recording with the same 100 g weight. The weight of the objects was recorded to the nearest 0.1 g.

Dimensions were obtained using the inside or outside jaws, as appropriate, of a pair of 6" electronic digital callipers. The callipers utilised had a resolution of 0.01mm with a rated accuracy of +/- 0.02mm for measurements under 100mm; +/- 0.03mm for measurements greater than 100mm.

Terminology for parts of a horseshoe follows Clark (2004, 81). Note that horseshoes are described from the ground side orientated with the toe uppermost, while the photographs accompanying this report (Plate 14) superstitiously have the branches uppermost. Thus the iron concretion on the right hand branch of the verbal description can be seen on the left side of Plate 14.

While it is usual to x-ray iron objects, the circumstances of the discovery meant that at the time of writing there was no funding for such examination. Identification was thus conducted based entirely on superficial visual examination of the objects. The horseshoe is in relatively good condition with little concretion or corrosion products, making it possible to determine the form with a good degree of certainty. However, x-ray examination would undoubtedly reveal more information (such as the form of the nail heads, evidence for maker's marks, the possible nature of the associated material in the concretion, etc) and should be undertaken as part of proposed further work on the site.

## Description:

Three iron artefacts, coded AAQ (one object), and ACV (two objects), were recovered.

AAQ is a horse shoe. It is in fairly good condition with, aside from an area of concretion on both sides of one heel, little corrosion obscuring the surface. The ground surface face is the best preserved (Plate 14); the foot surface has rather more corrosion. The preservation is such that one nail hole remains open and free of corrosion; the others are quite visible (possibly only filled by slightly iron oxide enriched mud) and the shank and clenching of the remaining complete nail is readily visible. The limited corrosion means that the original dimensions of the shoe and of the shank of the complete nail are readily measurable with a high degree of accuracy; while little metal has been lost to corrosion the large concretion on one heel however means that the recorded weight is likely to be greater than the original weight.

The shoe has smooth edges and rectangular nail holes. There are two nail holes visible on the left hand branch, with possible traces of a third partially obliterated by wear to the toe. Three holes are visible on the right hand branch; that closest to the toe retains a complete nail, the middle hole possibly has part of a shank or just corrosion and the hole nearest the heel retains the head of a nail. The left hand branch has no calkin; the large concretion on the right hand branch may be masking a calkin and could also be mask a fourth nail hole, should one exist. The horse shoe has a maximum width of 111mm and maximum length 109mm; the web has a maximum width of 31mm (left) and 32mm (right), and is made of metal of approximately 5-6mm thickness. The shoe is somewhat asymmetrical: the heel (distance from the tip to centre of the first nail hole) being 50.5mm on the left branch and 66mm on the right (assuming there is not another nail hole hidden under the concretion). The tip of the left branch is 16mm wide while the tip of the right tapers to 10mm. The right hand quarter (from centre of first nail hole to end of last nail before toe) measures c.49mm; wear to the toe

means measurement of the left quarter and the toe is not possible. The nail holes are approximately 8mm x 5-6mm and do not appear to be counter sunk. The surviving nail has a rectangular shank of max 6.5mm x 2.5mm. The tip is folded over in 'standard modern style clenching' (Clark 2004, 89, fig 70). The nail has a maximum surviving length of 24mm (head to clench); the clench is folded back 6mm. Without the assistance of X-rays it is not possible to be certain of the shape of the nail heads. The condition of the metal suggests the nail represented by just a head may have only recently lost its shank, probably as a result of sheep trample.

There is heavy wear to the toe of the shoe with the metal burred inwards towards the foot, suggesting that the wear was accompanied by damage to the hoof. The wear is somewhat asymmetrical, greater on the left hand side of the toe where it has, as noted above, worn away part of the nail hole closest to the toe.

There is a large concretion (51mm x 34mm x 45mm thick) with a somewhat 'spongy' texture on both sides of the right heel; a similar but smaller concretion is present on the ground side of the toe. These are likely to be post depositional; X-rays are recommended to identify.

The horseshoe (and concretion) weighs 250g,



Plate 14 - Ground side of mid 14th - 16th century horse shoe AAQ

ACV is two iron objects that were recovered in immediate proximity to each other in rabbit spoil; they were bagged under the same code as at the time of finding it was considered likely that they were broken halves of the same object. This possibility remains: they could be part of the same object or could be entirely unrelated. Their original forms and functions could not be identified: x-radiographic analysis would likely reveal more detail but it is uncertain if it would allow them to be identified. The following descriptions are based upon what can be seen by eye through the corrosion products.

ACV 1: Curved rectangular sectioned bar with ?oval ?terminal. Overall maximum length 67.3mm; max width 23.3mm; max depth 48.8mm. Gently curved rectangular sectioned bar; tapering slightly along length. Wider end terminates at a point where the bar might have taken a right angled turn but has broken off, or might be burred. The bar tapers down to the other end, which expands into a rounded ?terminal. A concretion extends downwards from the bar at this end. It is unclear if this is just a concretion like on the horseshoe or masks part of the object.

ACV 2: Small L shaped bar. Overall maximum length 29.9mm, max width 14.3mm; max height 15.7mm. This piece appears to have a rectangular sectioned shank or shaft approximately 8.8mm wide and 5.9mm thick; the width tapers slightly towards the ?tip. The ?tip may be bent over similar to a clench or may be an accidental break; this is uncertain. The 'foot' of the L is relatively thick. The object appears to be too thick to be a nail.

### Dating:

Horseshoes like AAQ, with smooth edges, broad web of c.30mm tapering slightly to the heels, average weight of 230g, and square or rectangular nail holes with no countersinking usually 3 or 4 to a side are classified as Type 4 (formerly 'Late Medieval') (Clark 2004, 88). Type 4

horseshoes are frequently found in fourteenth and fifteenth century deposits in London (Clark 2004, 96-97). In the Capital square nail holes are earlier; rectangular nail holes are a feature that usually post dates c.1350AD (Clark 2004, 88). Egan states that Type 4 continues in use into the sixteenth or even early seventeenth century outside London (Egan 2005, 179). Type 4 horseshoes are gradually superseded by post medieval horseshoe types, including those with a fullered groove and those with keyhole shaped insides. Horseshoes with a fullered groove are considered to have been introduced in the second quarter of the seventeenth century (Goodall 2005, 407) while those with a heels shaped to produce a keyhole shape to the interior curve also developed during the seventeenth century (Goodall 1983, 251). The keyhole shaped form remained popular until the eighteenth century (Goodall 2005 407).

In the local area a number of well dated Type 4 horseshoes have been found. Most of these horseshoes were still attached to pieces of horse that had been used to foul a well and fill a garderobe shaft following a 1569 siege of Barnard Castle (Goodall 2007, 516-518, Austin 2007, 518-519).

The Bainbridge horseshoe therefore should be considered to date between the mid fourteenth to sixteenth or early seventeenth century.

### **Discussion:**

The wear seen at the toe of the horseshoe is not uncommon in medieval examples: Clark notes that such wear 'indicates a very poor standard of care' (Clark 2004, 83). The presence of the nails in the shoe, including one nail that is still clenched, may be indicative of accidental loss rather than deliberate removal, though Clark notes that as late as the nineteenth century 'clumsy' farriers were sometimes noted to rip the shoes off by brute force (Clark 2004, 84).

The horseshoe was found in the spoil from rabbit burrowing at the base of the slope where most of the medieval and early post medieval pottery was also found. This could mean that, if the pottery was discarded as waste, the horseshoe may similarly have been thrown away as part of the same rubbish disposal. As the majority of finds from this part of the site are medieval to circa mid sixteenth century it might be reasonable to infer that the dating of the shoe can be refined. This would, however, be unwise, as we are dealing with a surface collection and such would require an assumption that the horse shoe had arrived as part of the same mechanisms (?waste disposal from upslope) that produced the other finds. This is not certain, and especially when dealing with an artefact that, by its very nature, can be lost accidentally on roads and other places well away from formal waste disposal areas, would be unwise.

This is particularly notable when it is considered that the find spot is adjacent to flattish ground that has been interpreted as a possible track (see Appendix 4) which may have provided access from the village and low lying land adjacent to the River Bain, and Bain House, to the higher ground within the Area of Investigation or the upland common pasture beyond. As such, the shoe could very easily represent an accidental loss from a horse using this track, if it was a track, rather than being present as part of domestic or other waste. Indeed, the ability to recycle iron, coupled with the monetary value of any old (scrap) iron, would seem to suggest that the horse shoe is most likely to have arrived at its find spot as an accidental loss rather than being the product of deliberate waste disposal

The dating, significance and meaning of the other iron objects is impossible to determine without x-rays.

## Appendix 02: Finds: Clay Tobacco Pipe Report

David Budge.

### Methodology:

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

Maximum length of stem fragments, diameter, bore diameter and bowl dimensions were measured using the inside or outside jaws as appropriate of a pair of 6" electronic digital callipers. The callipers utilised had a resolution of 0.01mm with a rated accuracy of +/- 0.02mm for measurements under 100mm; +/- 0.03mm for measurements greater than 100mm. Due to the equipment available, dimensions, including stem bore, were recorded in metric (contra Higgins and Davey (1994)). Dimensions were rounded to the nearest 0.1mm or 0.1g. Where stem bore is not recorded for bowl and stem fragments it should be taken to indicate that the fragment did not include any part of the bore, or that the fragment of bore was a small section with less than 180° of the original bore surviving and could not be reconstructed accurately (given the often non-spherical shape of the bore it is possible that those that were reconstructed on short segments are not accurate). The Draft Guidelines (Higgins and Davey 1994) suggest recording the bore with the butt end of a set of imperial drill bits. As bores are often not perfectly round, in order to allow accurate comparison between the calliper derived measurements and those which would be obtained using the butt ends of the drills, the minimum bore diameter was recorded. The range of metric measurements that would relate to a given Imperial drill butt can be found in Table 01.

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

Table 01 - Imperial to Metric Conversion of pipe stem bores

Dating of bowls was with reference to published local typologies; that for Yorkshire come from White (2004, 41-56). Dating of individual stem fragments was predominantly based on the general observations on the dating implication of bore diameter in Higgins 2017 (section 4.1). However, there are usually exceptions to such rules and therefore any date range based on individual stem fragments should be considered to be approximate rather than absolute.

Even the wide date ranges derived solely from featureless stems should not be considered necessarily reliable. Stem dates in no way match the accuracy of the dates derived from bowls. However, more confidence can be assigned to stem dates where certain diagnostic features are present, such as burnishing. Unfortunately, with small and often abraded fragments of pipe stem recovered from disturbed ground it is often difficult to determine whether deliberate burnishing is actually present. Only when stem burnish was certain was it recorded (when 'fine' clear evidence of burnished facets was required, distinguishing 'good' and below was easier as clear burnished facets alternated with more matt un-burnished surfaces). Obviously, the more abraded the stem the more difficult it was to recognise burnish with any degree of certainty. In the cases where burnish is recorded as present the stems can be taken to most probably pre-date 1800; burnishing was largely abandoned in favour of less

time consuming (i.e. cheaper) methods of production in the late eighteenth century (Higgins, 2009, 193-194).

Unless otherwise noted, fabrics listed as local ('L') in the spreadsheet were defined as such on the basis of visual appearance in hand specimen, without use of magnification. Fabrics considered to have been made from imported clays (non local, e.g. southern British ball clays) were defined as those that appeared to be hard fired, pure white and devoid of inclusions, or with only fine quartz as an inclusion. Local fabrics were defined on the basis of:

- an off-white colour and / or
- softer texture more prone to abrasion and / or
- very fine vesicular surface texture (even when very white and hard fired) and / or
- presence of inclusions visible by eye.

### **Results:**

Two fragments of clay tobacco pipe, a stem fragment coded AAW and a stem with mouthpiece fragment ACR, were found. Both have relatively large bores (AAW c.2.9mm, ACR 3mm, both equivalent to a wire of 7/64" diameter). Higgins suggests that bore diameters between 9/64" and 7/64", and occasionally as small as 6/64", may (in combination with other factors) denote a pipe of seventeenth to early eighteenth century date; stem bores from 6/64" to 5/64" (though occasionally up to 7/64") are often late seventeenth to late eighteenth century. (Higgins 2017, 4.1). In a study of Yorkshire clay tobacco pipes, White noted that pipes with a bore of 7/64" were 'produced over a period of nearly a century between c.1595 and 1675' (White 2004, 59) and gives a median date of 1650, +/- 90 years, with an overall date range of 1605 to 1695 for pipes with stem bore of 7/64" (White 2004, table 7.2). White's plot of 7/64" bores does however indicate that pipes with this bore diameter continued to be produced beyond this date range in Yorkshire, with a small proportion of the recorded pipes having a bore diameter of 7/64" in the period 1700-1750 (White 2004, fig 7.4).

The use of local clays for these two fragments, rather than southern English ball clays, also supports an early date. The relatively narrow stem diameter in relation to the bore of AAW however, suggests that this stem may belong to the latter part of the date range, i.e. late seventeenth or eighteenth century. The form of the mouthpiece ACR, which was made by a single cut perpendicular to the stem and is unglazed, is entirely in keeping with the early date range suggested by the bore diameter. Without undertaking a programme of analysis it is not possible to state where the pipes were made; there is nothing in the forms of these stem fragments that would aid attribution to a particular maker or production site. At this period it is most likely that the manufacturer was local. White notes that there is no documentary evidence for pipe makers in north or east Yorkshire, but states that artefactual evidence suggests pipes were probably manufactured at a number of places in the region. The closest of these are Richmond, Yarm and Ripon (White 2004, fig 2.3); on grounds of proximity Richmond is perhaps the most likely source. This does, however, require the assumption to be made that the pipes were local pipes used by local people, but this need not necessarily be the case. Ultimately an examination of likely source of clay tobacco pipes used in Bainbridge cannot be pursued further without the recovery of bowl fragments, as an essential starting point.

### **Conclusions:**

There is no evidence from the pipes themselves or their find locations to indicate the mechanisms by which they reached the site. Pottery of broadly contemporary date was found (particularly the Staffordshire type slipware dish) so the pipe fragments could have arrived with manure. Equally they could have been used and dropped by labourers or other persons working in or passing through the land parcel.

**Catalogue:**

Mercian Archaeological Services CIC. Clay Tobacco Pipe Recording Sheet.

Site Code: BBR18 Recorded By: David Budge

Context:	Part:			Mouthpieces:											
	Bowl	Mouthpiece	Stem	Fabric:	Number of frags:	Maximum No:	Stem Length (mm)	Stem Bore (mm):	Burnish:	Tip Type:	Tip Finish	Date:	Comments:	Draw?	Additional
AAW			1	L:abun muscovite;mod white CP 0.1-0.3mm;sparse round red/brown Fe to 0.25mm;rare SR white ?Q c.0.02mm VF1	1	1	19.5	2.9	-			17th 18th	-quite narrow stem diameter suggests late in date range		
ACR		1		L:Sl yellower than AAW	1	1	17.2	3	-	c	0	17th 18th	-some abrasion		

## Appendix 03: Finds: Pottery Report:

David Budge.

### Introduction:

As stated in the overall introduction to this overall report, the Yorkshire Dales are very rich in archaeological remains but poorly served by intrusive archaeological investigations. The sources of supply and dating of medieval ceramics to the Dales is not understood. This report begins with a discussion of the state of knowledge of ceramics in the region. It then describes the pottery from the site, beginning with an assessment of the condition of the sherds, and continuing with description of the different ware types present. It then discusses the dating of some critical ware types, details evidence of use.

It is intended to compare the sherds from Bainbridge with fabrics from the excavated sites in the area in an attempt to identify local and regional types. This work is planned as part of the proposed future investigation of the Bainbridge site. It is only through undertaking such comparative examination that understanding of the local ceramic situation can advance; treating each site in isolation and recording basic details of the wares, particularly local wares, as 'unknown sources' without attempts to correlate them with the types found on other excavated sites in the area fails to lay even the most basic groundwork that allows the distribution areas, and consequently the likely production sites, of local types to be identified.

### Methodology:

All sherds were examined by eye and under 20x magnification (via a fresh break) using a Brunel Microscopes MX1 stereomicroscope. The assemblage was quantified using sherd count, sherd weight and vessel count. Weighing was undertaken using a Maplin VV52G digital load cell electronic balance calibrated prior to use with a 100 g mass and checked following recording with the same 100 g mass. The weight of the pottery sherds was recorded to the nearest 0.1 g. The sherds were quantified by weight, sherd count, and minimum vessel count.

The data were input into a Microsoft Access database using the system of naming and code names in the City of Nottingham Ceramic Type Series (Nailor and Young 2001), the Lincoln Ceramic Type Series (Young, Vince and Nailor 2005) and for Yorkshire sites on the A1(M) (Vince and Young 2007, 225-6).

The sherds were classified into ware and fabric groups based on raw materials and method of manufacture. Identification of the ware and fabric groups to known local types was attempted primarily through published fabric descriptions and by comparison with excavated material from the Hospital of St Giles near Brompton Bridge, the latter held by York Museum. Major regional pottery types in the York ceramic reference collection held by York Archaeological Trust were also examined, and ad-hoc comparison was also undertaken with sherds from the Durham Elvet Bridge River Wear assemblage at Durham University, and with a subset of sherds from Kildale Manor, Yorkshire. The work benefited at an early stage from personal comments on several of the sherds from ceramic specialists including Jane Young, Chris Cumberpatch and Anne Jenner, and from discussion of Yorkshire pottery with a number of workers, particularly Jane Young.

Identification of inclusions is done using 'Peacock's Principles' (Peacock 1977) and description of fracture, rounding etc is based on Adams Gilmour (1988, 62).

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

Presence and location of use-wear traces, sooting, etc were recorded.

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

Hand painted designs and printed patterns on eighteenth - nineteenth century Cream, Pearl and White wares were identified, where possible, by reference to complete examples of vessels held in the writer's reference collection, by reference to published material (including Coysh and Henrywood 1982, Roberts 2006) and, failing this, by comparison with examples on internet auction sites and other internet resources. Where there is doubt as to the identification of a ware, pattern or other feature then that detail preceded by a question mark in the database.

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

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

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

### **Terminology:**

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

#### **INCLUSIONS AND 'TEMPER':**

Historically there has been a belief amongst students of medieval ceramics that many of the non-plastic inclusions in the clay used for potting (such as quartz sand or grit, fossil shell, iron ore etc), represent material deliberately added to the clay by the potter during preparation (e.g. Perry 2016, 98-9, for examples and discussion). There is some evidence to suggest that potters did indeed sometimes deliberately add material to the clay. This includes occasional documentary references, such as records of the purchase of clay and sand by the Humberware potters of West Cowick (McCarthy and Brooks 1988, 18), along with observations of potters who used traditional methods into recent times, such as the potteries at Verwood, Dorset, using traditional methods down to the twentieth century, where sand temper was deliberately added to the clays (Draper and Copland-Griffiths 2002, 83-7)). However, John Hudson, a working Yorkshire potter making traditional pottery, has bluntly challenged the automatic assumption that larger inclusions are deliberately added, not least on the grounds of common sense and human nature (John Hudson pers comm). Additionally, Rice has highlighted the fact that what potters may add to the clay to improve its properties in throwing, drying, firing or use may not simply be non-plastic and can include 'invisible' additions such as water, salt and mixtures of different types of clay (Rice 1987, 403-408).

Recent study has examined, for example, Late Saxon Torksey ware from Lincolnshire. Torksey ware has traditionally been considered to be made from a clay with sand deliberately added to it (Barley 1981, 275). Scientific study of the clay sources around Torksey though have confirmed that Torksey ware was actually made from clays used essentially as dug, the Rhaetic clay found near the village having quartz sand and other inclusions present entirely as a product of geological, not human, activity (Perry 2016, 91).

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

#### CERAMIC PERIODS:

The ceramic periods used in this report are detailed in Table 02. The dating of the pottery in North Yorkshire is poorly understood so the date ranges given are general. Dating of the periods is based upon the scheme used by Vince and Young for sites on the A1M Darrington to Dishforth road scheme (Vince and Young 2007, table 19).

Ceramic Period:	Approximate date range:
Late Saxon	L9th - M/L11th
Saxo-Norman	L9 - 12th/ E13th
Early Medieval	12th - E13th
Medieval	13th - 15th
Late Medieval - Early post medieval	14th - M16th
Early post medieval	M15th-M16th
Late post medieval - modern	M17th - 20th

Table 02 - approximate date ranges of ceramic periods used in this report

The use of terminology including 'Saxon' and 'Saxo-Norman' should not be taken to imply any particular ethnic affiliation for the pottery in question: they are merely terms used for the periods covered by the date ranges in Table 02.

#### GEOGRAPHICAL TERMS:

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

**Region:** a substantial geographical unit of land that may or may not have any specific relevance to political, cultural or other divisions. Examples include 'the North' (broadly England north of the Humber estuary, but perhaps extending further south of this line into North Nottinghamshire), 'the north east' (eastern England from North Yorkshire in the south to Scotland in the north, containing Cleveland, Durham, Northumberland and Tyne and Wear), 'the north west' (primarily modern Cumbria, McCarthy and Brooks 1992, fig 1). Such definitions leave Bainbridge specifically, and the Yorkshire Dales, as a 'dark hole' of pottery studies in Northern England. The Dales occupy a no man's land between 'north west', 'north east', South Yorkshire, and Scotland.

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

**Local / non-local:** Where pottery cannot be assigned to known production sites in a region or area, the pottery has been assessed as either 'local' or 'non-local'. In pottery terms, this relates to an assessment of the inclusions in the pottery and how likely they are to be found in geological deposits in an inadequately defined 'local' or 'non-local' area around The Site. For example, in Nottinghamshire the geology is primarily Permian and Triassic. Pottery with, for example, Jurassic fossil shell, is therefore unlikely to have been produced within the modern shire of Nottinghamshire, as the nearest geological deposits likely to have been utilised in production of such wares are found in Lincolnshire. Such pottery found in Nottinghamshire from an unknown source would therefore be classified as 'non-local'. Pottery with inclusions of similar geological age and origin to the geological deposits found in proximity to The Site on the other hand are classed as 'local'. In terms of coding, generic names which reflect the likely chronological period based on technological and typological considerations are used (e.g. LS (late Saxon), EMED (early medieval), MED (medieval), LMED (late medieval), PMED (post medieval) etc.), combined with suffix LOC if the geological inclusions are of types likely to be found locally, or X if they are likely to have come from further away. Thus MEDLOC denotes a sherd of probable medieval date with inclusions suggesting manufacture in a local industry; LSX would refer to a late Saxon ware of probable non-local manufacture. It would be desirable, and probably possible, given a larger assemblage, to group sherds according to type and to assign names. At this stage, however, this is not possible and unsourced fabrics have been grouped under general codes (e.g. MEDLOC) and, if multiple fabrics are present, they have been given a fabric number and described. It should not be assumed that all the sherds classed as MEDLOC come from the same source; this may be the case with members of a sub fabric (thus the vessels identified as MEDLOC fabric A may all be from the same

source) but not with the overall group (thus MEDLOC fabric A vessels may have been produced in a different industry or tradition to vessels classified as MEDLOC fabric B).

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

Due to this a range of considerations, including technique of manufacture, glazing, form, have been taken into account to suggest a broad date range for each of the ware and fabric types. Where there is little certainty about the suggested dating this is indicated in the database by question marks. Further work on the assemblage, including consultation with local type series and excavation to recover larger fragments of pottery with hopefully diagnostic forms, from stratified contexts, should allow a more accurate dating of the poorly dated sherds.

#### TRADITION:

Following Moorhouse and Slowikowski (1987, 62), a pottery 'tradition' is 'pottery with a range of general characteristics identified within a geographical area'

## Ceramics in the Yorkshire Dales:

There is no ceramic type series for the Dales known to the writer. The Research Agenda for Post Roman Pottery Studies has highlighted the creation of ceramic type series as a priority for both the North West and the North East Regions and also in North Yorkshire (Irving 2011, 30-3), suggesting that they do not currently exist. As a consequence very little is known of the pottery of these areas and there is a lack of standardisation of ware names (see Cumberpatch 2007 521-7 for discussion of the effect of this in West Yorkshire).

It is intended to compare the sherds from Bainbridge with fabrics from the excavated sites in the area in an attempt to identify local and regional types. This work is planned as part of the proposed future investigation of the Bainbridge site. Such analysis is essential when considering a surface collection such as this, which by its nature cannot be dated through stratigraphy and association.

However, even the examination of ceramics from known sites in the region is unlikely to be helpful in terms of determining the original sources or precise dating of the Bainbridge ceramics.

Very few pottery kilns have been found in proximity to Bainbridge (Figure 25). The nearest medieval production sites known to the writer are Winksley, Yorkshire (Bellamy and LePatourel 1970), 37km to the SE of Bainbridge (Figure 25 no 7), and Docker Moor, Whittington, north Lancashire (Gibbons 1986), 38km to the SW (Figure 25 no 4). Bellamy and LePatourel suggest 32km as a 'normal' radius for marketing medieval pottery (Bellamy and LePatourel 1970, 113), suggesting the products of these industries are unlikely to have reached Bainbridge on a regular basis. Pottery production has also been suggested at Rey Cross on Bowes Moor, approximately 23km north of Bainbridge (Figure 25 no 18), A stone mound in a sheiling here has been interpreted as a possible pottery kiln (English Heritage 2002), though it has not been excavated, there do not appear to be any finds, and the evidence that lead to its identification as a pottery kiln are not clear.

During the medieval period pottery was mostly produced by relatively small industries supplying their local area (with the exception of a few 'high quality' industries that served a wider area, such as Stamford (Lincs) and Scarborough (N Yorks)). In contrast, late medieval and early post medieval pottery was supplied by a 'smaller number of potteries with a wide[r] market area' (McCarthy & Brooks 1992, 36). A production site of late medieval / early post medieval date at Silverdale and Arnside, Lancashire (Edwards 1974, White 2000, 285-291) is around 49km WSW of Bainbridge (Figure 25 no 3) and early sixteenth century production at Firs Farm, Healey (North Yorkshire) (Sage 2012, 2) is 26.5km ESE (Figure 25 no 6); both are close enough to have potentially supplied Bainbridge.

However, the known production sites must represent only a tiny proportion of those originally operating in the area throughout the medieval period, as demonstrated by the large numbers of wares from unknown production sources that are found on consumer sites in the region. For example, while some of the wares defined at Barnard Castle (the closest castle excavated on any scale in proximity to Bainbridge) were considered to belong to broad Northern ceramic traditions, the majority were unlike those seen on excavated sites within the [north east] region such as Durham, Piercebridge, Darlington and Thrislington. It was concluded that Barnard Castle was supplied with most of its pottery by local producers, working at unknown kiln sites in its area (Freeman, Bown and Austin 2007, 353-4); these wares had limited local distribution and were unlikely to be found any distance from the production sites. A similar picture was noted further south on rural sites excavated as part of the A1(M) upgrading. The rural sites in the vicinity of Wetherby, only around 20km west of York, were found to have a very different ceramic sequence and dating to the sequence known in York (Vince and Young 2007, 267).

The evidence for predominantly local pottery producers supplying local pottery to the local community makes it likely that few of the products of the known kilns in the region are likely to have reached Bainbridge. Consequently one must look to excavated consumer sites for

parallels for the Bainbridge pottery. Unfortunately even this is problematic. There are very few excavated medieval sites near Bainbridge; fewer of significant size and complexity (such as urban or castle sites) that might provide sufficiently deep stratigraphy to allow an understanding of the range and chronology of fabric and vessel types in use in the area to be understood: even fewer still are usefully published.

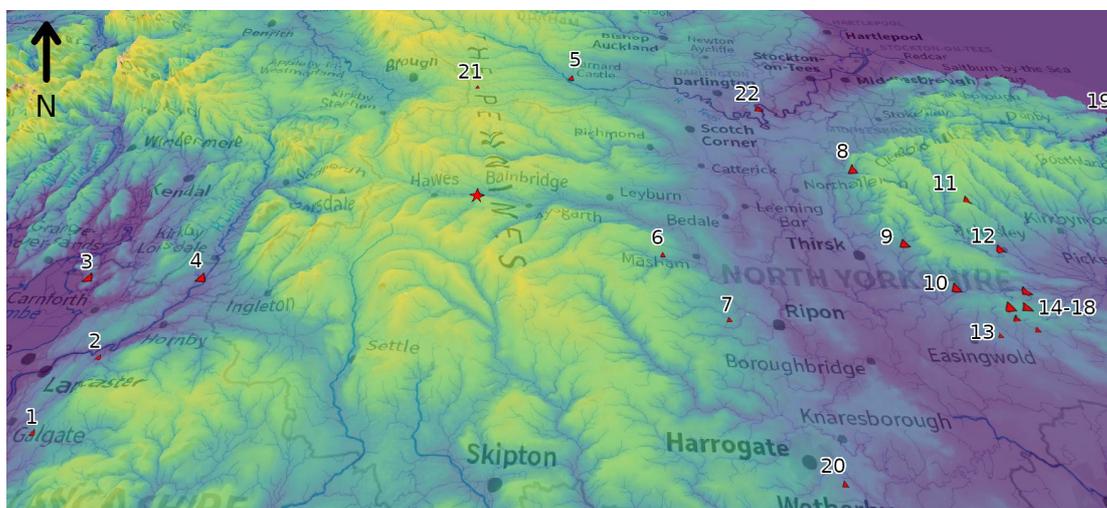


Figure 25 - Known, suspected, and suggested medieval pottery production sites in the vicinity of Bainbridge (red star in centre of view). See Table 03 for key and references. The basemap is a 3D terrain model viewed obliquely with colour ramp from high (yellow) to low (purple). There is no scale as the oblique 3D view would render one meaningless for anywhere but its immediate vicinity.

Kiln No (Figure 25)	Kiln Name	Date	Source
1	Ellel	Medieval	White 1993
2	Caton	?Medieval	Edwards 2004, 15-6
3	Silverdale	Late Medieval - early post medieval	Edwards 1974, White 2000, 285-291
4	Docker Moor	Medieval	Gibbons 1986
5	Barnard Castle (area)	?12th - early 13th	Austin 2007, 668
6	Healey	1st half 16th?	Sage 2012, 2; NAA Unpublished
7	Winksley	med	Bellamy and LePatourel 1970
8	Osmotherley	14th - 16th or 18th / 19th	Hayes 1988; Griffin 201X XX
9	Thirlby	Med	Hayes 1988, 139-40
10	Coxwold	16th 17th	Hayes 1988, 135
11	Potter House East Moors	?Lmed - EPM	Hayes 1988, 136
12	Helmsley	16th	English Heritage 2002 no 15
13	Brandsby	Medieval	Bellamy and LePatourel 1970
14	Crayke	14th - 16th	English Heritage 2002 no 493; 494
	Yearsley, Gilling East, Stearsby, Sourey Hill	Various 16th - 19thC	Hayes 1988, 122-130; 135-6
19	Ruswarp Bank	Medieval	Vince 2010, 245
20	Follifoot	L15-E16th	English Heritage 2002 no 77
21	Bowes Moor	?Medieval	English Heritage 2002 no 723
22	Low Dinsdale	?13th-14th or 18th	English Heritage 2002 event no 1198

Table 03 - Key to numbered kiln sites in Figure 25.

At Barnard Castle, 27km NE of Bainbridge, it was noted that the site was 'well to the west of contemporary sites excavated in Northern England' (Freeman, Bown and Austin 2007, 353). At least the North East of England has seen excavation (and publication) of some large and /

or well stratified medieval sites; in proximity to Bainbridge these are limited to Barnard Castle and the Hospital of St Giles, Brompton Bridge, but as noted in the Barnard Castle report there are rather more excavated and published sites in the eastern part of the region, close to the east coast. The North West of England on the other hand has seen far less excavation and publication. It has been noted that there is a 'scarcity of stratified pottery groups [in Cumbria] outside Carlisle' (Brooks 2000, 119). Pottery from Kendal, 41.2km west of Bainbridge is mostly unpublished (Whitehead et al 2013, 111-2) but provides the most significant urban assemblage within any reasonable distance of Bainbridge to the west.

It is therefore apparent that the larger pottery assemblages in the Northern region, those with the best stratification and highest potential for independent dating, along with waste material from pottery production sites, have mainly been recovered from sites at some distance from Bainbridge. Due to the predominantly local nature of ceramic supply in the region during the medieval period it is entirely likely that any parallels drawn from these sites may not apply to Bainbridge, or may only apply in the broadest possible terms; this may even be the case with the two nearest medieval sites excavated on a large scale, the Hospital of St Giles at Brompton Bridge, and Barnard Castle.

Smaller and often less well dated assemblages from rural sites are still scarce, but a few at least have at least been recovered from sites closer to Bainbridge. The stratigraphy on rural sites is often shallow with high degrees of intrusion and residuality however: the assemblages recovered may not be large enough to allow reliable interpretation of the ceramic sequence and independent means of dating of the horizons (by datable artefacts such as coins or by scientific means such as radiocarbon and dendrochronology) may not be present, or only be present in statistically insignificant quantities.

While a few of these small investigations have been undertaken, even they are scarce around Bainbridge, and the small size of the resultant assemblages and sparse geographical coverage of the interventions do not allow a picture of the region's ceramics to be discerned. Regarding the medieval archaeology of the North West in general it has been stated that 'due to the terrain and relatively poor soils there have been few threats which elsewhere would have resulted in excavations on medieval sites ... There have been very few excavations on rural domestic sites and none at all on those of manorial status' (McCarthy and Brooks 1992, 21). A similar situation applies in the Dales, although it is the case to some extent that it is not necessarily a lack of excavation but particularly a lack of publication that hampers studies.

A spout from a Scarborough ware tubular spouted jug is the only medieval pottery known from Richmond Castle, 26km NE of Bainbridge (Freeman, Bown and Austin 2007, 353), while pottery from Middleham Castle, 20km east, is unpublished but at least exists in store (English Heritage 2019). Though some excavation work took place at Bolton Castle (10km east) in the 1990s and medieval features were discovered (ADS 2009), it is unclear if pottery was recovered in any quantity and no report on the work is evident. It is probable that, in the absence of excavated medieval sites in closer proximity to Bainbridge, these castle sites would provide (or rather, should have provided) the best parallels for the Bainbridge ceramic material and had the potential for useful stratigraphic sequences that would allow understanding of the ceramic sequence of the area to be constructed.

Unfortunately, even when sites have been excavated and published in the region, the publications are often inadequate and it is impossible to extract useful information about the pottery to assist the search for parallels. For example, in his review of the regionally significant Tees Valley ware industry, Didsbury highlighted the lack of published detail about fabrics in the St Giles hospital report. This lack of detail meant that it was impossible for Didsbury to obtain information about the changing proportions of fabrics A and B through time at St Giles; information that could have helped refine the chronology of Tees Valley ware for all sites on which it is found in the region (Didsbury 2010, 227). To recover this information it would have been necessary to undertake a re-analysis of the St Giles assemblage; a task not usually within the scope (or budget) of the analysis of pottery from another site and, indeed, not one that should be required when a previously excavated site has already been subject to specialist analysis. Published fabric descriptions in particular are often vague and lacking in detail. For example, some descriptions of Tees Valley ware state that it has: 'compact quartz-

gritted bodies fired to a buff colour. ... the size of the grits vary' (Wrathmell 1987, 39), or 'TVW B has a pink to light red fabric. ... Quartz inclusions are found but generally in smaller quantities than in TVW A'; in the latter case TVW A was described as 'a buff fired fabric, moderately hard with moderate to frequent quartz inclusions' (Maxwell 1995, 171). Details essential for the comparison of these wares, such as an indication of the size range of inclusions, and also shape and sorting of inclusions, are rarely given. The often limited descriptions are also at times contradictory, The inclusions in Tees Valley ware have been described at one extreme as 'fine sandy' (i.e. having quartz in the size range of 0.1 - 0.25mm (Orton Vince and Tyers 1993, 240)) (Jenner Mills and Burke 2006, 389) though to 'gritty' (i.e. some or all of the inclusions are 1mm or larger in size (Orton Vince and Tyers 1993, 240)) (Wrathmell 1990, 379).

Limited they may be, but at least such descriptions can provide pointers to possible parallels that the pottery specialist can follow. Completely useless are descriptions such as 'the earlier material ... came in two types, with and without gritty fillers. ... This was also likely to be true of the later medieval pottery, in fourteenth to sixteenth century forms. The "local" material, with a variety of fillers and glazes, was accompanied by Humber ware urinals and cisterns' (Newman 2001, 115-6). Such descriptions (apart from the reference to an already defined type, Humber Ware, which it is assumed refers to the products of the Humber ware industries such as West Cowick, Holme on Spalding Moor, and Blue Bridge Lane in York, or is the fabric a local version? This is not stated) are entirely pointless and leave the user with no option but to re-examine the assemblage (if it is still extant: the report notes the deposition details for the written report but it makes no mention of where or if the material archive was deposited or was to be deposited). If re-analysis of the archive is not an option (for example because it was not retained, or because funding is not available to visit a distant repository and re-analyse an assemblage that a client has already paid to have analysed when the original work was done) then the only alternative is to entirely discount the pottery from the excavations where published reporting is deficient. Clearly the latter course is unsatisfactory, especially in an area where so little intrusive archaeological work has occurred, with a consequence being that even small assemblages are valuable.

Such problems are unfortunately not restricted to assemblages from smaller interventions where the nature of discovery (e.g. by chance during a watching brief) may mean that resources for post excavation analysis are scarce: even some of the most significant published sites excavated on a large scale in the area reveal problems when the material archive is examined. The hospital of St Giles, Brompton Bridge, located 29.3km ENE of Bainbridge, is the closest medieval site to Bainbridge to have been excavated on a large scale. These English Heritage funded excavations (Cardwell 1995, 110) recovered a substantial pottery assemblage from the site. The assemblage was divided into 'types', which the ceramic specialist stated were the 'products of specific potting traditions'. These types were defined 'on an examination of fabric (colour, hardness and texture and the presence of mineral inclusions, their sizes, shapes, degree of sorting, and densities) and decorative treatment (glazing and surface treatment)' (Maxwell 1995, 168). Examples of the 'types' defined for St Giles include 'Gritty ware'; 'Splashed ware'; 'York Glazed ware'; 'other medieval white wares'; 'sandy ware'; etc. Most of these have been given names that are in use in the York region (e.g. Brooks 1987 150-1 for the definitions of Gritty ware, Splashed Ware and York Glazed Ware at York), implying (either intentionally or unintentionally) that the 'types' identified at St Giles either belong to the same potting traditions or were made at the same production sites as the identically named types at York.

The definition of the 'types' at St Giles also gives the impression that they form fairly homogenous groupings; as is also implied by the statement that the types represent the 'products of specific potting traditions' (Maxwell 1995 168). Splashed ware for example is described as 'a hard fabric with moderate to dark grey reduced cores and oxidised surfaces ranging from light buff to light orange to light pink. Moderate to frequent quartz sand inclusions and occasional red iron minerals occur. Glazing comprises a splashed external green glaze, though occasional examples of brown glaze occur' (Maxwell 1995, 169).

A cursory examination of many of the illustrated vessels and a few of the body sherds from St Giles demonstrates that the 'types' defined at St Giles do not represent the 'products of

specific potting traditions'. St Giles is a key site for understanding the medieval ceramics of the area. It is the closest medieval consumer site to Bainbridge to have been excavated on any scale and published: it is close enough that some at least of the ceramic types may occur on both sites. The only other medieval consumer site excavated on any scale nearby and published is Barnard Castle: being more distant than St Giles and in the next county to the north, it may be less useful in terms of parallels for pottery that was mostly local in nature. As St Giles is so critical to understanding the ceramics of Bainbridge a brief critique of the published ceramic report for St Giles appears to be appropriate. The following observations are based on a limited examination of the St Giles assemblage by the writer that included many, but not all, of the illustrated sherds used in the publication and a selection of body sherds chosen at random from the archive boxes labelled as containing the gritty and splashed ware 'types'. Vessel numbers in the following discussion refer to the numbering of the illustrations in Maxwell 1995.

The descriptions of the pottery 'types' in Maxwell 1995 (168) suggest that they form relatively homogenous groupings and are therefore likely to be the products of a potter or potters working to produce vessels in a similar tradition (such as using similar forms, decoration, glazing etc) and probably, but not always, using similar raw materials. Despite this, Maxwell acknowledges that 'some of the resulting groups are broad 'cover-all' groups' (Maxwell 1995, 168). While it may reasonably be expected that this would be the case with a 'type' like 'other medieval white wares', examination of the assemblage indicates that it is also the case for the other, apparently more tightly defined, 'types'. Both the gritty ware and splashed ware 'types' feature a wide and disparate variety of wares and fabrics that represent vessels made in a number of different potting traditions. These wares have different visual characteristics (colour, texture, type of glaze, surface treatment) and a wide range of different inclusion types.

For example, by definition, the most basic characteristic of the 'splashed ware' type is the glaze. Most significantly, very few of the sherds recorded as 'splashed ware' at Brompton Bridge actually feature a splashed glaze. A 'splashed glaze' is produced by sprinkling, pouring or brushing a glaze made of ground galena or lead metal filings onto the surface of a pot before firing followed by a rapid and relatively low temperature firing (Newell 1995, 85-6): the resultant glaze appears to form 'splashes' where each particle of lead reacted with minerals in the clay to form the glaze and leaves a characteristic pit at the centre of each splash. Depending on the way the lead is prepared before inclusion in a glaze mix pitting may also occur beneath, and at the edges of, 'suspension' glazes (predominantly due to the particle size of lead or galena used) (Newell 1995, 84); isolated 'splashes' of glaze may also occur on suspension glazed vessels away from the main glazed areas, particularly if the glaze was carelessly applied. Accidental splashes of suspension glaze, with pitting, can be common on otherwise unglazed parts of glazed vessels, such as under the handle (as with no 59 at St Giles) or inside the base, and may also occur at the edge of glazed areas (as is the case in the base of one of the Tees Valley ware bowls from St Giles, this vessel is probably that illustrated as no 49). These traces can be confused with a genuine splashed glaze by the unwary. Additionally, when firing splashed or other glazed pottery the glaze may run, drip and pool onto parts not deliberately glazed and may drip onto other vessels in the kiln.

The technique of splash glazing is considered chronologically significant: accidental drips and runs of glaze are not. Only a small proportion of the glazed sherds from St Giles classified as 'splashed ware' actually have a splashed glaze; most have accidental drips and runs with no pitting; several have suspension glazes that have decayed during burial and patchily flaked away (these seem most likely, from the limited examination of the assemblage, to account for Maxwell's 'brown splashed glaze') and at least two have a crazed bubbly yellow deposit that may be a misfired glaze.

There are six vessels illustrated in the St Giles report as splashed ware. Of these, no 9 has an accidental blob of glaze with no pitting and some runs to the exterior, no 6 has a very thin 'smear'-like glaze with no pitting, no 8 has no visible glaze and no 10 was not seen. Nos 5 and 7 have similar iron rich coarse sandy to gritty fabrics and similar splashes of glaze; that on no 5 consists mostly of glaze that has pooled under the rim, having dripped here during firing of the inverted vessel, but there are also a few pitted splashes elsewhere on the body.

These are the only two of the six illustrated vessels classified as 'splashed ware' that conform to the definition of a splashed glaze (Newell 1995). Admittedly, the glaze on no 5 is questionable; it is not deliberate in its final location and could easily result from a suspension glaze of limited coverage that used lead metal or coarsely ground galena and ran during firing.

The fabrics classified as 'splashed ware' at Brompton Bridge are similarly diverse. Vessels no 5 and 7 are made from an iron rich clay and have fired to give bright orange surfaces and grey cores. No 5 is gritty while no 7 is medium to coarse sandy. Both have parallels amongst the pottery classified as 'gritty ware' at St Giles (something acknowledged by Maxwell in the description of gritty ware: 'some sherds may represent unglazed parts of splash glazed vessels' (Maxwell 1995, 169)) and indeed 'splashed ware' vessel no 5 appears to be a classic Northern Gritty ware sensu Moorhouse (1983, 88). Splashed ware vessel no 6 in contrast has an iron poor fabric; it is fired to a very pale grey to pale orange with a grey core and has distinctive fine quartz inclusions with coarser iron; vessel 8 is also iron poor, firing very pale yellow to very pale grey with a light grey core; it has very different quartz inclusions that are in the medium to coarse size range and does not have the iron seen in vessel 6. Vessel 9 as a further contrast is pale orange with a light to mid grey core and has medium quartz inclusions.

There was even greater diversity of fabric amongst a random selection of the un-illustrated body sherds classified as 'splashed ware'. These range from pure white firing fabrics with fine angular quartz and decayed, patchily flaked off, suspension glazes; iron rich and iron poor medium to coarse sandy fabrics of different types; and iron poor and iron rich gritty wares, again having clearly different fabrics.

It is also notable that both vessel no 4 (classified as 'gritty ware') and no 8 (classified as 'splashed ware') have rim forms and decoration of thumbing on top of the rim, that are commonly seen on Tees Valley wares (Maxwell 1995 fig 31), Thirlby wares (Hayes 1988, fig 111, 112) and 'possible Teesdale wares' thought likely to have been made in or in close proximity to Barnard Castle (Freeman, Bown and Austin 2007, 497; Austin 2007, 668). No 4 and no 8 are both iron poor sandy wares and appear to be either slightly misfired (no 8) or burnt (no 4) examples of fabrics that are very similar to the fabrics classified as Tees Valley A ware at Brompton Bridge. Notes on the bags indicate that these two sherds were indeed originally classed as Tees Valley A but were later reclassified. No 8 was reclassified straight from Tees Valley A to splashed ware, while no 4 was first re-assigned from Tees Valley A to splashed ware, then re-assigned to gritty ware. These two vessels are dissimilar in both fabric and general appearance and form to the other, admittedly diverse, members the 'types' they ended up with, and if nothing else the wisdom of illustrating such atypical sherds, especially where there was clearly doubt about what they were, could be questioned.

Just from a cursory examination of the 'splashed ware' at St Giles, then, it can be seen that this 'type' consists of a disparate collection of different wares and fabrics, produced following a range of different traditions using different raw materials and manufacturing techniques. It also reveals that the majority of the published vessels, and many of the unpublished sherds, are not actually glazed with splashed glazes. Regarding dating, Maxwell noted that his splashed ware 'occurs from Period 3 [late twelfth - mid thirteenth century], peaking in Period 4 [mid thirteenth to late fourteenth century]'; he attempts to rationalise this apparent contradiction with the accepted date ranges for splashed wares locally (later eleventh - mid thirteenth century) by suggesting 'it may be residual' by period 4 (Maxwell 1995, 169). From the re-examination of the material it is clear that the explanation for the dating profile of the 'splashed ware' type is not residuality; it is a consequence of misidentification of the majority of material assigned to this type.

This issue is not limited to the splashed wares. It is present in the other types. The gritty ware 'type' was also not an homogenous grouping: it contains a wide range of different fabric types, some of which are additionally sandy rather than gritty. Vessel no 3, classified as gritty ware, also demonstrates that the published illustrations are not necessarily accurate. This white firing jar is thinner walled than illustrated; it has a finer rim profile with a distinct concavity to the upper surface and has a convex base, not the flat base it is illustrated with.

Even Tees Valley ware (TVW), which the published description and geographically specific name appears to suggest to the reader is a fairly tightly defined grouping, may not be. Amongst the white firing vessels classed as fabric A there appear to be several different fabrics distinguishable by eye. They include vessels with a fine surface texture and fine to medium quartz inclusions (e.g. no 50), one with much more poorly sorted quartz, the majority of which is iron stained, along with other unidentified minerals (e.g. no 19) and some with a gritty texture (e.g. a vessel probably illustrated as no 30). The inclusions in the latter conform to the description of TVW A, which, amongst other things, is stated to have quartz up to 1.5mm in size (Vince 2010, 245). The others, with their finer quartz, may just represent variation in the materials used in TVW production. However, pottery from excavated kilns at Thirlby, North Yorkshire, were described as having a 'hard, well fired light buff to white fabric' (Hayes 1988 139) that has been described as 'sandy' in texture (Jennings 1992, 50). The Thirlby products featured a relatively standardised range of jars with very similar rim forms and decoration of thumbing to the top of the rim edge as found on the TVW from St Giles (e.g. compare Hayes 1988 nos 9 and 10 to Maxwell 1995 no 17; Hayes no 6 to Maxwell no 19; Hayes no 11 to Maxwell 22 and 23). The similarity has indeed been noted before, with a Thirlby/Tees Valley Type Ware isolated at Tollesby, Cleveland (Sherlock 1990, 92). The same forms and decoration are also found on pottery from Barnard Castle that was identified as potentially local, Teesdale, wares, which may have been produced in the borough at Barnard Castle (Austin 2007, 668). Thin section analysis indicated that these types contained dolerite (Freeman, Bown and Austin 2007, 408), an inclusion not noted in Tees Valley A. Pottery from kilns at Ellel, Lancashire, also has similar rim forms and decoration, sometimes in a buff gritty ware (White 1993).

There is thus a strong possibility that at least some of the pottery at St Giles classified as Tees Valley ware A may not be, and might instead be the product or products of other relatively local industries, such as Thirlby and Barnard Castle, producing pottery in broadly similar forms with similar decoration. This may be supported by Vince's chemical analysis of Tees Valley ware, which indicated that Tees Valley ware A used different clay to Tees Valley ware B. Vince discovered that there was a close chemical similarity between the Tees Valley A found at Hartlepool and the products of an excavated kiln at Ruswarp Bank, Whitby (Vince 2010, 245). On grounds of proximity it would be reasonable for pottery produced near Whitby to be supplied to Hartlepool in quantity, but if Ruswarp Bank is the source of Tees Valley A at Hartlepool then it is highly unlikely that the same ware would also be transported as far as St Giles, particularly in any quantity. Tees Valley ware B, on the other hand, using different clay sources and produced at a presently unknown location but possibly somewhere between Yarm and Hartlepool on the Tees (Barrett 1985, 67-8), would be within reasonable marketing range of both Hartlepool and St Giles.

It appears that there are, therefore, reasonable grounds for doubting the attribution of the Tees Valley A wares at St Giles.

The few issues highlighted above, noted in a cursory examination of the St Giles assemblage, limit the confidence that can be placed in the published data and in the conclusions drawn from it (such as the occurrence and dating of particular pottery types in the region) in the St Giles report. These limitations also mean that any work that relies upon the published St Giles data and uses it uncritically will also be flawed. This is a particularly unfortunate situation when St Giles and Barnard Castle are the only published excavations to date of any scale on medieval sites in reasonable proximity to Bainbridge.

While the published St Giles ceramics report is therefore seen to be deficient, the assemblage and its documentation is at least extant and can be re-examined and reinterpreted by researchers. This is critical, particularly in an area where the ceramics are so poorly understood.

Museums have been reporting a storage crisis; some museums are attempting to enact discard policies for material they hold in an attempt to alleviate the crisis and some are currently not accepting archives. Community test pitting projects in villages can reveal much information and are particularly valuable in providing material to help understand ceramic sources and distribution, but can only achieve their full potential if the finds are adequately

recorded and analysed in accordance with the relevant standards and guidance and are curated for re-examination as necessary. For example, other than known ware types (such as Tees Valley ware), the descriptions of pottery from the recent Swaledale and Arkengathdale test pitting project were limited to statements such as (examples chosen at random): 'medieval. 13th. both orange-red, 1 has glaze' (test pit 05, context 2) or 'medieval. 13th/fourteenth century. Buff/grey fabric' (TP19, context 8) (Vaughn nd, np). These descriptions do not meet the Minimum Standards laid down by the Medieval Pottery Research Group for recording fabric types (MPRG 2001, section 5.1) - they lack any description of inclusion type, size, sorting, etc., and the record does not conform to the minimum details that 'must be recorded before the ceramics can be analysed and/or archived' (MPRG 2001, 10). In practical terms this means it is not possible to get even a preliminary indication of whether the non-Tees Valley type wares from Swaledale are likely to be comparable with the Bainbridge material, and it will be necessary to re-examine the assemblage to see if any of the medieval material from Swaledale is paralleled at Bainbridge. However, it is unclear if, or how much of the assemblage has been retained: 'certain finds were retained for display or to form part of a reference collection. The remainder were either returned to the landowner, lodged with the main archive or stored locally' (SWAAG 2016, 35). Test pitting finds may not be considered a priority for accession by museums, as, especially with the more frequently used test pitting methodologies, they rarely come from stratified contexts, and community groups are increasingly disposing of finds by returning them to land owners (pers obs of several Heritage Lottery funded projects undertaken in the last few years by several different community groups in Derbyshire, Nottinghamshire and Leicestershire). However, particularly in areas such as the Dales where few large excavations have been undertaken, it is multiple small collections such as those from test pitting, and field walking, that can be critical to understanding and defining the ceramic types in use in the area. Unless the maximum data has been extracted from the finds (i.e. creation of a 'Research Archive' conforming to the MPRG 'minimum standards' as a minimum (MPRG 2001, 10-14)), the return of finds to landowners should be avoided: while it helps to alleviate the storage crisis in museums it is impossible to guarantee that, for example, twenty years down the line, the finds will still be accessible to researchers. It also acts as a strong disincentive to additional study if the researcher has to contact and visit twenty or thirty different landowners to attempt to examine an assemblage. As archaeology is a finite resource and as community archaeology is undertaken for the purposes of research, not as mitigation of the damage caused by development, and is often undertaken with relatively generous funding from the Heritage Lottery Fund, there does not appear to be any excuse for doing anything but an excellent and academically robust job on a community excavation.

The absence of basic data on the ceramics of the region thus forms the background against which the Bainbridge ceramics must be assessed.

## **Results: The Pottery:**

A medium sized assemblage (MPRG 2001, 19) consisting of a total of sixty (60) sherds of pottery, from a minimum of fifty six (56) vessels, with a combined weight of 330.8g, were recovered.

The pottery ranges in date from a possible prehistoric fragment through to modern. No Roman pottery was present. One sherd is provisionally dated to the Saxo-Norman period but may be later.

The ware types identified in the assemblage are displayed in Table 04.

In order to visualise the data each of the ware types shown in Table 04 were assigned to one of five chronological period groupings. These groupings are Prehistoric, Saxo-Norman, Medieval, Late medieval to early post medieval (sometimes styled as 'Early post medieval' for brevity), and later post medieval to modern. The sherds classified as 'miscellaneous' appear as 'uncertain' in the graphs, though it should be noted that they are of medieval or later date

rather than any earlier. The assignation of sherds to each group is shown in table 05, as is the broad chronological span of each period grouping.

Some of the ware types can have a wider date range than is specified in the period groupings (particularly the later post medieval wares such as Brown Glazed Earthenware), or may span groupings, and to this extent, the groupings and date ranges should not be taken to be absolute. Wares particularly affected by this include the late medieval local ware (LMLOC) which could belong to the later part of the medieval period or to the following late medieval to early post medieval group. It has been assigned to the medieval group on the basis that it is more likely to belong here. Similarly, the glazed red earthenware (GRE) could belong to the late medieval - early post medieval group, where it has been placed, but could continue, depending on place of manufacture, beyond the date range given and into the eighteenth century. Both the brown glazed earthenwares (BERTH) and unspecified slipwares (SLIP) are ware types that can start earlier than the start date of the group to which they have been assigned, but the examples of these wares are all fabrics that can be dated to late in their ranges, and are most likely to be contemporary with the industrial wares of the mid eighteenth century onwards with which they are grouped. Indeed, they are probably technically 'modern' (late eighteenth century and later) rather than post medieval.

cname	full name	period	earliest date	latest date	total sherds	total vessels	total weight
PREH	Prehistoric wares	preh	-4500	50	1	1	0.6
MISC	Unidentified types	nk	0	1900	2	2	9.3
SNX	Non-local Saxo-Norman Fabrics	sn	870	1150	1	1	3.9
MEDLOC	Medieval local fabrics	med	1150	1450	9	8	22.1
NGR	Northern Gritty ware	med	1180	1450	7	7	51.5
TVW	Tees Valley type ware	med	1250	1400	10	10	57.3
LMLOC	Late Medieval local fabrics	lmed	1350	1550	1	1	1.2
RG5	Reduced Green Glazed 5	pmed	1480	1580	5	3	117.1
GRE	Glazed Red Earthenware	pmed	1500	1650	1	1	1.4
BERTH	Brown glazed earthenware	pmed	1650	1900	8	7	41.5
OTW	Osmotherley Type Ware?	pmed-mod	1650	1800	1	1	1.5
SLIP	Unidentified slipware	pmed	1650	1950	3	3	6.9
STSL	Staffordshire/Bristol type slipware	pmed	1680	1800	1	1	6.5
STMO	Staffordshire/Bristol type mottled-glazed	pmed	1690	1800	1	1	1
PORC	Porcelain - unknown source	pmed-emod	1700	1900	1	1	0.5
CREA	Creamware	emod	1750	1830	3	3	5.1
PEARL	Pearlware	emod	1770	1900	2	2	1.3
NCBW	19th-century Buff ware	emod	1800	1900	1	1	0.4
WHITE	Modern whiteware	emod	1850	1900	2	2	1.7

Table 04 - Ware types in the assemblage by sherd count, vessel count and weight. 'earliest date' and 'latest date' are the general date ranges for these types in the database; they do not necessarily reflect the date ranges assigned to the pottery from this site. See the text for more specific dating.

Prehistoric	Saxo-Norman	Medieval	Early post medieval	late post medieval - modern
Late Neo-Bronze Age?	c.L9th - 12th	12th - 15th	Late 15th - 16th	Late 17th - 20th
Preh(?)	SNX	NGR TWV MEDLOC LMLOC	RG(5) GRE	OTW BERTH STSL CREA WHITE PORC SLIP STMO PEARL NCBW

Table 05 - Approximate date ranges of chronological groups and division of ware type code names into those period groupings.

The chronological distribution of vessels in the assemblage, by sherd count and by vessel count, is displayed in a bar chart in Figure 26. The composition of the assemblage, by weight and by vessel count, is shown in the doughnut chart figure 27.

Figure 26 shows that there is little difference between the totals for sherd count and vessel count: the majority of vessels in the assemblage were represented by single sherds. The two charts together show that the largest group of pottery in the assemblage is of medieval date. Medieval pottery comprises 46% of the total assemblage by vessel count and 40% by total weight of the assemblage. By vessel count the late post medieval to modern grouping takes second place, comprising 39% of the total assemblage, but these sherds are small and only account for 20% of the total assemblage by weight. The late medieval to early post medieval group, despite comprising just 7% of the assemblage by vessel count, takes second place after the medieval group in terms of sherd weight. 36% of the assemblage by weight is late medieval to post medieval, with most of this weight accounted for by the three joining sherds of jug or cistern ABI.

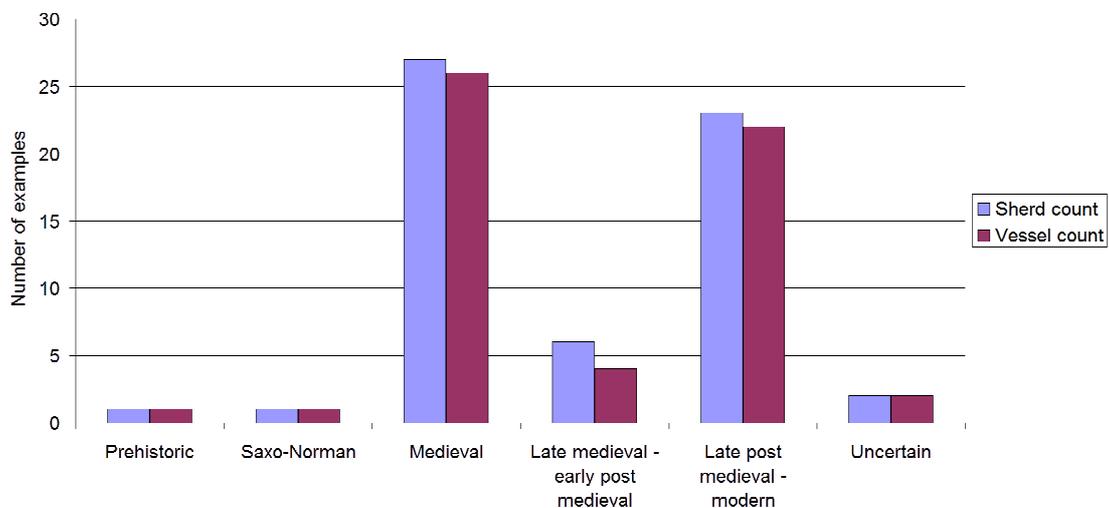


Figure 26 - Graph showing number of sherds and number of vessels in the assemblage for each chronological period.

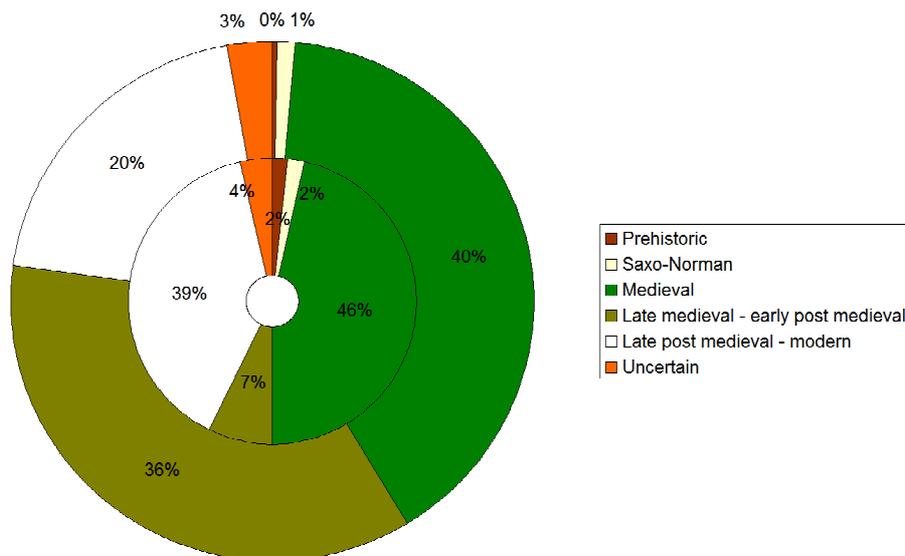


Figure 27 - Doughnut chart showing proportion of vessels by period in the assemblage. The outer ring shows the makeup of the assemblage by sherd weight; the inner ring shows the proportion of vessels by vessel count.

CONDITION:

The sherds ranged in size and condition from small and abraded to large and fresh. The weight of sherds in the assemblage ranged from 0.4g at the smallest to a combined 115g for the three joining sherds of ABI at the largest. The mean sherd weight for the whole assemblage is 5.91g. Seventeen of the sherds (28.3%) are of very small size, being one gram or less, and fifty one sherds (85%) are small, weighing 10g or less. In observing the assemblage it was subjectively noted that the medieval and early post medieval pottery is in better condition than the modern. In order to demonstrate this the condition of the pottery within each of the chronological groups was considered individually, with Table 06 showing the mean sherd weight for each period, the percentage of sherds in each chronological group under the mean weight for that group, the percentage of sherds in each chronological group weighing 1 gram or less, and the percentage of sherds in each group weighing 10g or less. These calculations are based upon individual sherd counts, not minimum number of vessel count.

As the sample sizes were small and as the collection is an unstratified surface collection, it was not considered worthwhile to engage in further mathematical analyses of the data. Further, the significance of the statistics was interpreted subjectively rather than mathematically.

	Prehistoric	Saxo-Norman	Medieval	Early post medieval	Late post medieval - modern
Number of sherds:	1?	1	27	6	23
Mean sherd weight (g) by period:	0.6	3.9	4.89	19.75	2.89
Number of sherds in period group under mean weight:	0	0	17	3	16
Percentage of period group under mean weight:	0%	0%	62.96%	50%	69.56%
Number of sherds in period group weighing 1g or less:	1	0	5	2	8
Percentage of period group weighing 1g or less:	100%	0%	18.52%	33.33%	34.78%
Number of sherds in period group weighing 10g or less:	1	1	23	3	21
Percentage of period group weighing 10g or less:	100%	100%	85.18%	50%	91.30%

Table 06 - Breakdown of sherd weights in relation to average weights by chronological period. Figures based on sherd count

From Table 06 it can be seen that the population of the Prehistoric and Saxo-Norman groups (n=1) are too small to contribute meaningfully to the statistics. The early post medieval group stands out from the others by virtue of the three large sherds of vessel ABI which, with such a small sample size (n=6), push up the mean sherd weight significantly and skew the statistics for this group. Like the prehistoric and Saxo-Norman groups, the sample size of the early post medieval group is too small to contribute reliable statistics to the discussion.

It can be seen that the mean sherd weight is greatest in the early post medieval group (19.75g), dropping to just under 5g for the medieval group, c.4g for the Saxo-Norman, under 3g for the modern and less than 1g for prehistoric. The greatest proportion of very small (1g and under) sherds belongs to the modern group, with 34.78% of the sherds of this period of very small size. Only 8.7% of the modern assemblage comprised sherds of medium size (over 10g). These statistics, along with the small mean sherd weight, are despite the fact that

this group includes a number of examples of the usually thick, chunky and heavy Brown Glazed Earthenware bowls (pancheons).

In contrast to the modern group, only 18.52% of the medieval group was of very small size and 14.82% was of medium size.

The small size of the early post medieval group (n=6) skews the figures from this group. However, it contained the largest sherds, with three pieces from a single vessel (ABI) accounting for the majority of weight of this group. The small sherds in this group are a product of the tendency of the Reduced Green Glazed ware fabrics to flake and spall as well as breaking into sherds (pieces retaining both surfaces) on breakage: two of the three RG5 vessels are represented by flakes (AAI, ABH).

The statistics suggest that the modern assemblage is more fragmented than the earlier pottery and may therefore have had a different origin, or have been subject to a different set of post depositional processes. To take this analysis further the recorded degree of abrasion of the sherds was plotted by period group.

The degree of post depositional abrasion of the sherds was recorded in the database on a scale of 1 to 6. The categories of abrasion are described in the introduction and can be summarised as follows: 1 = fresh, 2 = slightly abraded, 3 = moderately abraded, 4 = abraded, 5 = heavily abraded, 6 = extremely abraded. There were no sherds considered to be extremely abraded (category 6): sherds ACT and AAM were borderline but the presence of some of the original surface on both, albeit in depressions in the surface, allowed them to be classified as category 5 rather than category 6.

	?Preh	Saxo-Norman	Medieval	Early post medieval	later post medieval - modern
Better than average condition:	0%	100%	30.77%	50%	22.73%
Average condition:	0%	0%	53.85%	50%	54.55%
Worse than average condition:	100%	0%	15.38%	0%	22.73%

Table 07 - Proportions of vessels per period with less than average abrasion, average abrasion and greater than average abrasion.

Table 07 displays the categories of abrasion by minimum number of vessels per period. These data were grouped, taking category 3 as average (the term not used in a mathematical sense here) and grouping categories 1 and 2 as less abraded than average (i.e., better than average condition) and categories 4 and 5 as more abraded than average (i.e., worse than average condition). The table indicates that 30.7% of the medieval assemblage and 50% of the early post medieval assemblage were classed as better than average condition, in contrast to only 22.7% of the modern assemblage. Similarly, just 15.4% of the medieval assemblage and 0% of the early post medieval assemblage were in worse than average condition, in contrast to 22.7% of the modern assemblage.

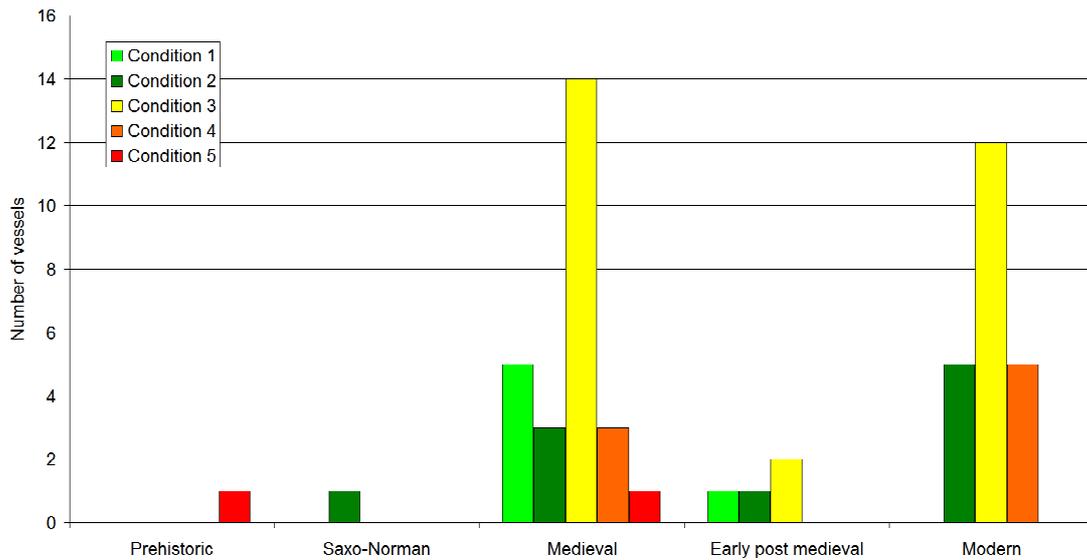


Figure 28 - Condition assessment of the assemblage by period.

The condition categories were then plotted on a bar graph showing minimum number of vessels per category, by chronological period. This graph is displayed in Figure 28. Figure 29 shows the proportions of each abrasion class for each chronological group.

Figures 28 and 29 shows that only the medieval and the early post medieval groups contained vessels classed as Fresh (category 1), with sharp edges and unabraded surfaces. The medieval to modern groups all had a majority of moderately abraded sherds. The medieval group contained the widest spread of condition, from fresh to heavily abraded; the early post medieval group consisted only of sherds in good condition, ranging from fresh to moderately abraded; the modern group contained a limited spread from slightly abraded to abraded. A lack of sherds with worse condition scores in the modern group is likely to be due to the hard nature of much modern glazed pottery, which even when subject to extreme abrasion may be too hard to lose all of its surfaces.

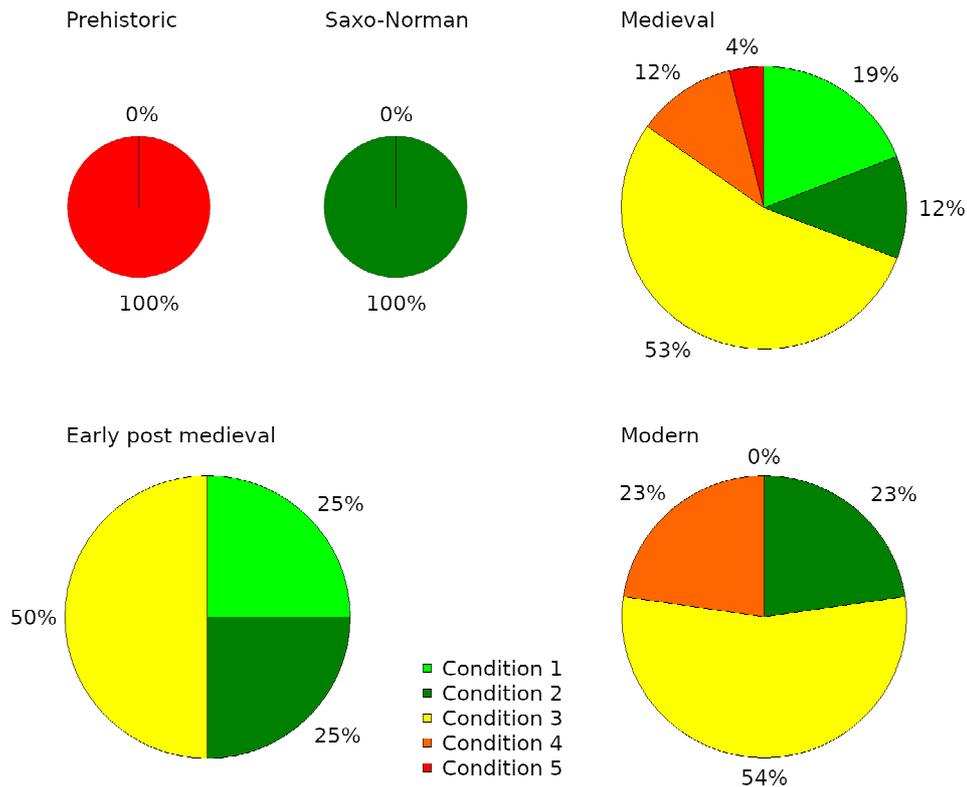


Figure 29 - Proportion of vessels of each condition category by chronological period.

Plotting the condition of the sherds on the map of the Area of Investigation (Figure 30) reinforced the views arrived at by this analysis: the pottery in better condition was largely concentrated in the NE corner of the Area of Investigation but this is also the area in which all the medieval pottery is concentrated: as the medieval pottery is generally in better condition than the later pottery this is to be expected.

Plotting the condition of just the medieval pottery (Figure 31) did reveal something interesting: all the medieval pottery considered to be in fresh condition was shown to be within the area of disturbed soils of the rabbit warren. This would seem to suggest that the rabbits are destroying previously undisturbed archaeological deposits. There was only one other vessel classed as being in fresh condition in the assemblage, late medieval / early post medieval Reduced Green Glazed vessel ABI. The sherds of this pot were found on the surface of vegetation (Plate 12) some 4m NE, and down slope, of the warren. It is probable that ABI was originally dug out by the rabbits and kicked to its find spot by sheep.

CONSIDERATIONS ON SHERD WEIGHT AND CONDITION:

The spatial distribution of the pottery, with the earlier material recovered from a single discreet area of the site but the later post medieval to modern pottery scattered over the whole Area of Investigation with no obvious patterning in the distribution, suggests that the early material is of different origin to the later post medieval to modern pottery.

If the pottery had all been subjected to the same form and / or same amount of disturbance, such as cultivation activity or trample, it would be anticipated that the generally softer medieval

fabrics would be more heavily abraded than the often harder fired later post medieval and modern sherds.

As this is not the case and the later pottery is generally more abraded than the medieval pottery, not less, it must be considered that the post medieval to modern pottery either has a different origin to the earlier material, or / and different post depositional processes have acted upon the two different groups of pottery.

It is unsurprising that that the largest sherds are also the freshest. The spall from base of vessel

AAC tapers down to very thin edges, most of which are still intact. Other sherds, such as handmade green glazed gritty ware ACO, is also in absolutely pristine condition. These sherds are so fresh that they must be very few removes from their original place of breakage

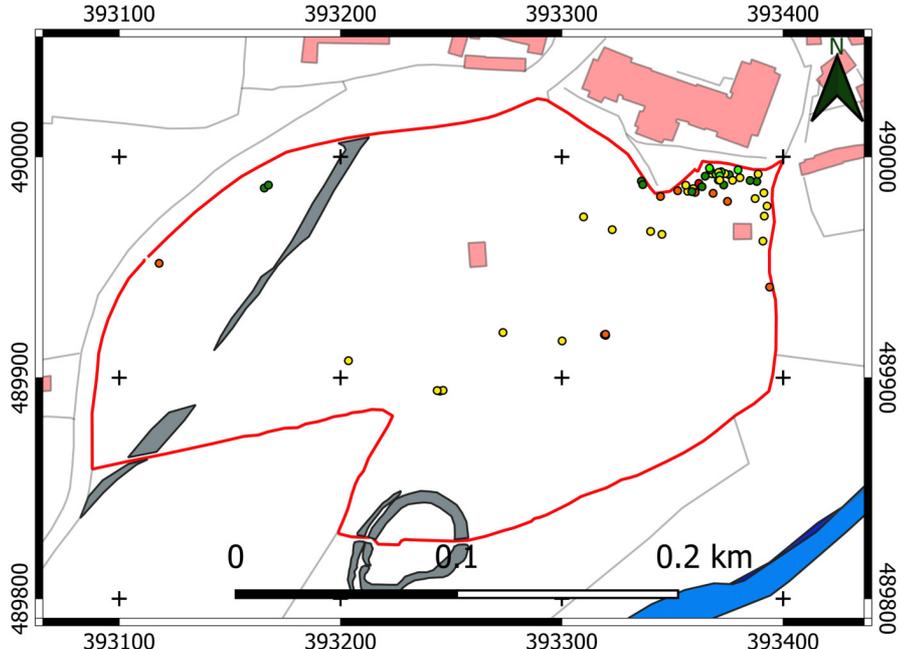


Figure 30 - Distribution of pottery sherds by condition. For key to colours, see Figure 28

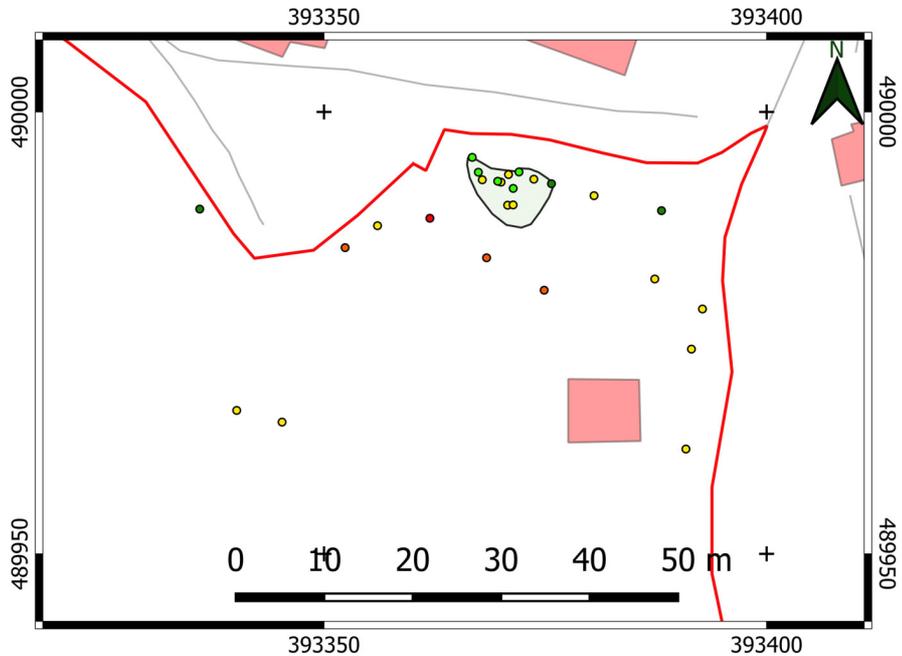


Figure 31 - Distribution of medieval pottery sherds coloured according to condition, shown in relation to the rabbit warren (lightly stippled green polygon). For key to condition colours see Figure 28

or disposal, and have neither been incorporated into a cultivation soil or been left exposed on a surface where they could be trampled by humans or animals. The same can be said of the three joining sherds from ABI. They are extremely sharp edged but do have very slight traces of abrasion visible on their surfaces and some algal staining on the broken edges, suggesting that their 'fresh' breaks did not occur immediately prior to discovery. They may have probably occurred a few months to perhaps a year prior to discovery. Before this breakage occurred ABI was larger and, judging from one of the fresh breaks which has no joining sherd, it broke into four pieces; one fragment had been moved somewhere else away from the other three and could not be found. This suggests that ABI was disturbed or eroded out of largely undisturbed deposits in recent times, rolling down the hill and being broken up and scattered by, most likely, the trampling of sheep.

The fresh sherds are likely to have been buried either where they were initially broken, or in a midden or some other primary place of disposal that they had been removed to following their breakage. It seems likely that they remained in these contexts until exposed in the last few years. It is possible they could have moved from their original place of breakage or disposal between original deposition and recent exposure (for example by colluviation) but they certainly had not suffered any significant disturbance such as cultivation or trample. It is notable that most of the freshest sherds were found in the spoil excavated by rabbits at the base of slope (see above), while ABI was in proximity to the burrow but slightly down slope of it; it must have rolled or been kicked to its find spot as undisturbed vegetation was beneath it.

It can therefore be hypothesised that the rabbits are actively destroying stratified archaeological deposits in this part of the site, bringing fresh pottery to the surface.

The other medieval and early post medieval sherds are of rather smaller size (all under 10g), and while a number are only slightly abraded, some are moderately to heavily abraded. The size of the sherds suggests that they have probably been subject to a certain degree of disturbance. However, there is insufficient information at present to determine whether the abrasion and breakage was mainly contemporary with the sherds, for example they were on a surface or in cultivation soil that was later scraped up into a midden; or on the other hand, if they were originally fresh and large and have become smaller and abraded through a process of erosion and abrasion as they have been trampled gradually, and relatively recently, down slope. Trampling by animals can have a devastating effect on even relatively well fired earthenware: a well preserved and almost complete post-medieval chicken feeder in tile fabric exposed by burrowing animals was, in the space of around a year from when it was first reported, reduced to a few heavily abraded fragments by the trampling of beasts at the Scheduled Monument of West Burton deserted village (Budge 2011, 1-2). As such, all the abraded medieval sherds could conceivably have been exposed and abraded by sheep pastured within the land parcel in modern times. However, in the absence of further evidence, a combination medieval and modern processes is perhaps most likely.

The modern pottery is, in contrast, widely spread over the whole land parcel and is in the form of small, more or less abraded, sherds. This material seems typical of pottery spread on the fields as manure. The spreading of manure need not necessarily indicate arable cultivation: in the early nineteenth century agricultural writers suggested that manure should only be spread on pasture land in certain areas of the country: lime, rags and ash were supposed to be spread instead of manure on arable land (Gerrard 1997, 70).

The prehistoric crumb is small and abraded. Being as it is made from a soft fabric just a small period of exposure or trampling could rapidly reduce it to its present condition.

## The Pottery:

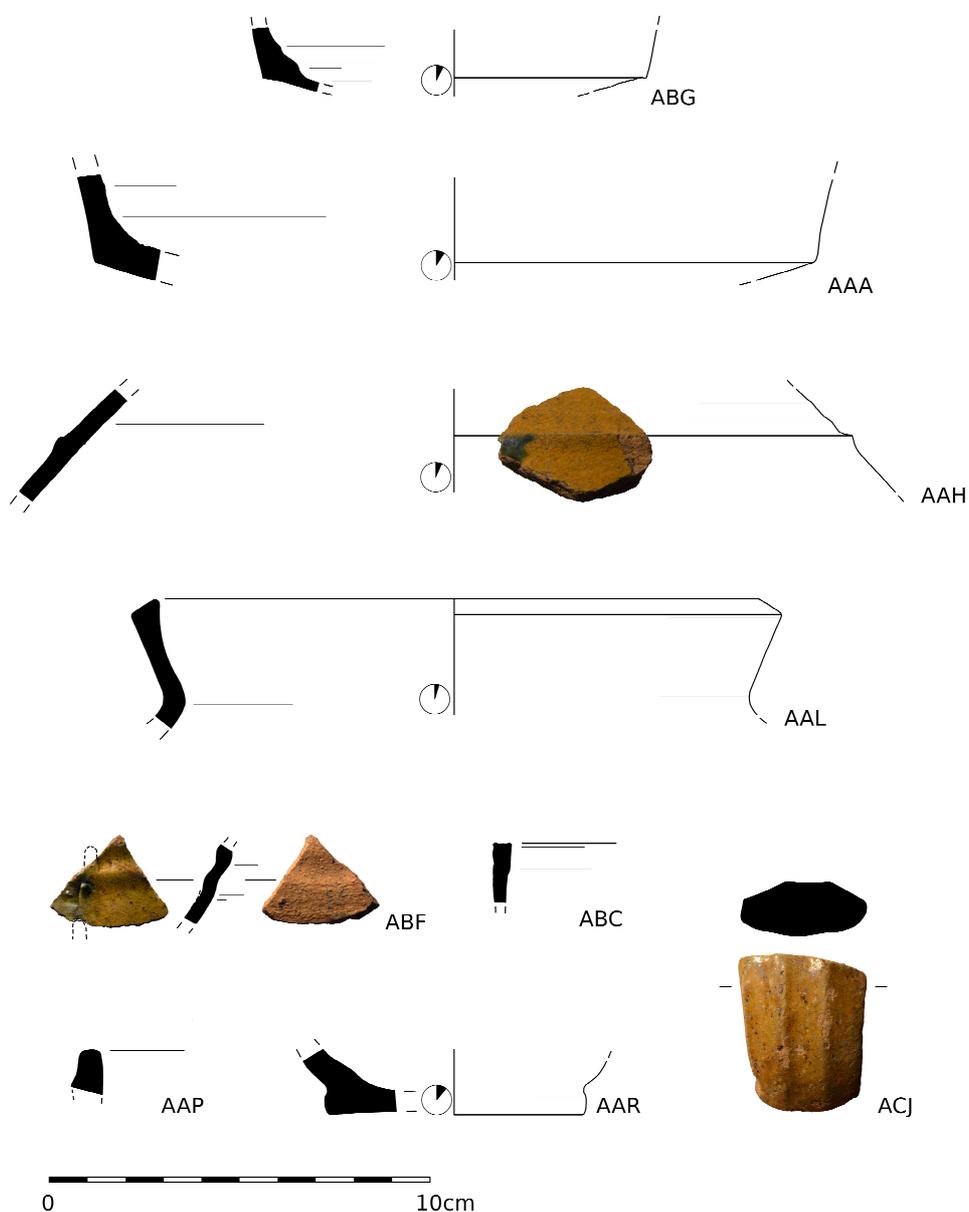


Figure 32 - Selected pottery from the assemblage.

Ware Types: ABG, un-sourced non-local Saxo-Norman ware jar or pipkin: AAA, Northern Gritty ware jar or ?jug: AAH, Tees Valley ware fabric B large jug with vertical copper stripe: AAL Tees Valley ware fabric B (burnt) jar ?handled: ABF Tees Valley ware fabric B jug with white slipped surface, applied scale decoration and stripe of copper green colour: ABC un-sourced late medieval local ware jug; sherd too small to accurately estimate rim diameter: ACJ ?Tees Valley Ware fabric B jug handle: AAP un-sourced medieval local ware jug rim or handle: AAR Brown Glazed Earthenware chamber pot.

## Prehistoric(?):

A single abraded crumb of fired clay, ACT (Plate 15), with a weight of 0.6g, appears to retain a fingernail impression in its surface. If so, it is more likely to be the remains of a prehistoric pottery vessel rather than just a lump of fired clay. The fabric is also more similar to prehistoric pottery fabrics than the fabric of the definite fired clay from the site. However, the very small size of this fragment and its abraded nature make it impossible to state that it is prehistoric pottery with certainty, though it seems likely that it is.

### FABRIC:

The sherd was too small and fragile to break off a large enough piece to ensure the full range of common inclusions were seen. The fracture was earthy in texture. Amongst the inclusions seen at the edges were: Abundant poorly sorted mixed sub-angular (occasionally sub rounded) quartz ranging from under 0.1mm to c.0.75mm. Moderate grains of aggregate sandstone up to 0.75mm with individual sub angular grains that are well sorted and range up to 0.2mm (some fragments have an iron rich cement). Abundant rounded - sub rounded powdery red / brown iron poorly sorted ranging from under 0.05mm to 2mm. Common sub-angular voids, some still containing calcareous material (decayed ?limestone) 0.2mm - 2mm, mostly in the range 1-2mm. Sparse rounded yellow clay pellets 0.2mm - 1mm. Sparse platy black ?charcoal / burnt bone? c.0.6mm. Sparse unidentified rock fragments (possible basic igneous), rounded, c.1mm.

### FORMS:

Uncertain: there are no surfaces remaining to allow determination of form, or even necessarily if this is a piece of pottery or other type of fired clay.

### DISCUSSION:

The orangey brown colour of this fragment suggests it has been fired to a relatively low temperature in an oxidising atmosphere. These characteristics are in keeping with it having been fired in a bonfire that was allowed to burn out naturally at the end of firing.

However, as it lacks original external or internal surfaces (the soft surfaces having been abraded away), it is not certain that this is a piece of pottery. It may be a fragment of fired clay. Such fragments can originate as accidentally or incidentally burned clay or mud in contexts such as hearth and oven linings, or in the case of wattle and daub walling, fired during burning of a structure. Fired clay may also occur as a result of deliberate human action, as when clay moulds are used in casting metal.

However, the presence of the possible fingernail impression in the surface of this fragment would be more consistent with decoration of a pottery vessel. While the fragment itself is quite abraded, when viewed under the microscope the impression has very smooth sides and a character that suggests it is more likely to have been made when the clay was still wet, rather than being caused by abrasion or incision after the fragment was fired. The writer is also unable to call to mind any inclusions with a morphology that would leave an impression of this shape if leached or fallen from the sherd (it is, for example, unlike the voids that occur in the various Lincolnshire shell tempered wares of the Saxon and medieval periods).

The fragment of fired clay from the site, ACB, also suggests that ACT may be a pottery fabric rather than a constructional clay. ACB has added straw or organic temper, but is otherwise



0 2cm  
Plate 15 - Abraded crumb of possible prehistoric pottery with possible fingernail impression.

quite a clean clay. It is likely to give a good idea of what the local clays of the site look like when fired. ACT in contrast has many inclusions, including quartz, iron, calcareous material (?limestone), clay pellets, and unidentified rock fragments. This may mean either that these inclusions were added to the local clays or that other clays naturally containing these inclusions were obtained from elsewhere. The angular nature of the ?limestone at least seems likely to suggest the addition of deliberately crushed temper: the other inclusions, particularly the rounded rock fragments, might suggest an origin in glacially or fluvially deposited sands which could have been added to clays by the potter or been mixed into alluvial clays by natural processes. The transport of potting clays and possibly also tempering material over distances of at least several kilometres has been demonstrated in several cases. In the late Saxon Torksey ware industry of Lincolnshire, Gareth Perry has demonstrated through scientific analysis that the kiln structures were built of the Mercia Mudstone clays underlying the site, while the clay for potting was brought in from Rhaetic clay deposits located c.1.5km east of the potter's workshops (Perry 2016, 85-6; 91). The sandy Rhaetic clay was a 'ready made potting clay' which was used as dug, requiring no added temper (Perry 2016, 87). Earlier, in the later prehistoric period, either clay, temper or finished pottery has been shown to have been widely distributed across a large area of the East Midlands. This has been demonstrated by analysis of distinctive Granodiorite inclusions; there are very limited sources of this mineral, all in Leicestershire (Carney 2010). Given the nature of the inclusions in ACT the vessel or the clays / inclusions would not necessarily have to be transported very far; the mixed inclusions might well occur in the alluvial deposits on the floodplain of the Ure immediately to the north of the site. In contrast, clay for constructional purposes is more likely to be obtained from the closest source possible, such as the glacial till underlying the Site. In addition, the presence of inclusions is more important in a potting clay to minimise cracking on drying and to allow the escape of steam during firing to prevent explosion of the pot; in bonfire fired pottery a coarse fabric is desirable to prevent cracking due to thermal shock during sudden temperature fluctuations that can occur in the harsh and difficult to control atmosphere of a bonfire firing.

The balance of probability thus suggests that ACT is more likely to be pottery than fired clay. If the impression in the surface is correctly interpreted as a fingernail impression, it might suggest the fragment it is most likely to have a middle Neolithic to Bronze Age date. This would not be impossible, given the presence of the possible late Bronze Age Slight Univalent Hillfort on the spur of land immediately upslope of the find spot. It may however be noted that later Bronze Age pottery is more frequently undecorated than that of the middle Neolithic to early Bronze Age periods. Additionally, while fingertip decoration is also present on Iron Age pottery in the north of England, these vessels are more often dark in colour, (probably) due to the potters smothering the bonfire in which they were fired at the end of firing to produce dark surfaces. However, oxidised Iron Age pottery does occur, so an Iron Age date is also possible, though perhaps less likely than Neolithic to Bronze Age.

Ultimately, unless larger and more convincing sherds of prehistoric pottery are found in Bainbridge with similar fabrics to ACT (and ideally with fingernail impressed decoration), the identification of ACT as prehistoric pottery should be considered possible, even likely, but currently unproven.

## **Saxo-Norman:**

### **Unsourced Saxo-Norman Non-local ware (SNX):**

A single sherd (ABG) from the base of a small jar or pipkin, with a weight of 3.9g, was provisionally identified as Saxo-Norman. The iron poor fabric differs from all the other fabrics on site due to the rounded quartz and large soft white clay pellets. As such it appears to have been made using raw materials that differ from those used for all the other pottery found on the site and has thus been designated a non-local fabric. While it has been classified as a Saxo-Norman ware based on the visual similarity to Saxo-Norman Stamford (and Pontefract) wares from further south, there is also the possibility that this is a small medieval pipkin that is

related to the high medieval white firing wares of Scotland and northern England (particularly Berwick upon Tweed) and, if so, may be later in date than its Saxo-Norman coding suggests.

#### FORMS:

ABG (Figure 32) is the base of a small jar or pipkin. It has a knife trimmed exterior and a convex base.

#### FABRICS:

Light firing with cream surfaces and margins and a darker grey core where thickest in the basal angle. Smooth fabric but with a somewhat lumpy surface texture due to clay pellets protruding from the surface. Inclusions are: Bimodally distributed quartz. The small fraction is moderate to common sub rounded clear and frosted quartz, well sorted, ranging from under 0.05mm to c.0.3mm. The coarser fraction comprises moderate amounts of moderately sorted sub rounded to rounded frosted and clear quartz (occasionally white) c.0.4mm - 0.8mm. Moderate to common soft sub-rounded pale yellow ?clay pellets c.0.1-1mm, some containing sparse quartz under 0.1mm in size. Sparse rounded to platy soft brown iron to c.0.2mm.

#### EVIDENCE OF USE:

There is thick sooting to the exterior base and external walls.

#### DATING:

Saxo-Norman: most likely twelfth century though may be later if it is a pipkin. See section 'Discussion of Dating' towards end of this appendix for more detailed discussion of the dating of this sherd.

#### DISCUSSION:

This small vessel is similar in form and in visual appearance to the Saxo-Norman Stamford ware (and its northern variant, produced at Pontefract). It is on this similarity of form, and superficial visual similarity (but not of fabric), that this sherd has been classified as a Saxo-Norman ware. There is however the possibility that it could instead relate to pipkins in white firing fabrics produced in the north of Britain, in Scotland and the very north of England. These possibilities are discussed in detail in the dating section, below. It is at least not likely to be local; unlike all the other pottery from the site it has distinctive rounded quartz and rounded ?clay pellets giving it a bit of a 'lumpy porridge' texture and suggesting a very different clay source to all the other vessels was used.

## Medieval:

### Northern Gritty Ware (NGR):

Seven (7) sherds from a minimum of seven (7) vessels with a combined weight of 51.5g, in four different fabrics, were classified as Northern Gritty Ware (sensu Vince and Young 2007, 257).

#### FORMS AND DECORATION:

There is no sign of decoration on any of the vessels. There was insufficient of the vessels present to determine the form of most with any certainty; where form could be determined the vessels appeared to be unglazed jars with knife trimmed bases and lower walls. Deliberately glazed sherds in fabric 4 suggested that this fabric was probably used for jugs.

#### FABRICS:

There were four distinct fabric types amongst the wares classified as NGR at Bainbridge.

Fabric 1 is represented by three vessels, AAA (Figure 32), AAC and ACI. It is micaceous and light firing, with sub rounded to sub angular gritty quartz, sandstone and (unlike Yorkshire

Grittyware) a silty matrix. There was no glaze on two of the sherds but ACI had an external splash of clear, probably suspension, glaze.

Fabric 2 is similar in the size range and type of inclusions to fabric 1 but is not noticeably micaceous and the quartz is rather more biased towards the larger end of the size range and is more sparkly. The fabric also appears to be somewhat more iron rich and has fired to brown. The single example, AAK, has a black core that may be unoxidised or be a product of only a short period of oxidation during firing that did not allow the organics in the core to burn out. It has a very decayed internal glaze which appears to be pocked; it is unclear due to the degree of decay of this glaze if this was a splashed glaze in the true sense, a pocked suspension glaze caused by large particle size of lead in the glaze mix, or a suspension glaze that has sunk into voids in the fabric caused by the gritty inclusions. If the glaze was splashed it would generally suggest an earlier date (i.e. twelfth or thirteenth century) than if it were one or other of the suspension glazed options.

Fabric 3 is represented by a single sherd, ABA. The fabric is hand made, with quite well sorted coarse sandy to gritty quartz.

Fabric 4 is represented by two examples, ACO and ACG. It is micaceous and off white firing, with sparse quartz grit. It has a green suspension glaze. It appears very different to fabrics 1 - 3 and probably represents a different tradition of potting to them

#### Descriptions:

Fabric 1: Surfaces are relatively smooth, despite the large quartz grits. The fabric is micaceous. It is generally oxidised to a pale cream / yellow which may have darker grey cores where unoxidised, particularly in the thicker parts of vessels. The fracture is uneven and hackly. The fabric has common to abundant silver mica (muscovite) plates ranging from under 0.05mm to 0.2mm. This is clearly visible at the surface but not so obviously in the break. There is common sub rounded to sub angular clear and frosted quartz, poorly sorted, ranging between 0.2 and 1.5mm (with the majority under 1.2mm), common silt sized quartz under 0.05mm, moderate quantities of rounded soft red / brown iron, poorly sorted and between 0.1 and 1.3mm in size. Sparse medium grained sandstone fragments up to c.1mm with individual sub angular grains c.0.2mm, one in sherd AAA with white cement. The occasional quartz grain has iron staining, possibly suggesting a source for some in a ferruginous sandstone.

Fabric 2: Smooth surfaces. Only sparse flakes of possible mica (biotite and muscovite) under 0.1mm on the surfaces; tiny sparkly fragments in the fabric are too small to see clearly at 20x magnification but look more likely to be angular quartz silt than mica. The fracture is layered and slightly hackly. The inclusions are common sub angular quartz, mostly clear, moderately sorted between c.0.4mm and 1mm. This is more angular than in fabric 1, with many flat facets that reflect light and produce the sparkly texture. Sparse feldspar 0.3mm to 0.5mm. Moderate soft red / brown iron under 0.05mm to 0.2mm. Long straggly air pocket voids some several mm long parallel to direction of throwing. Some are iron stained but not clear if this is post-depositional. Moderate sub angular white ?clay pellets under 0.2mm.

Fabric 3: Coarser surface texture than fabrics 1 and 2. A very layered and flat fracture. The fabric is light grey with a darker grey unoxidised core and a pale cream outer margin and surface. There are sparse muscovite mica flakes under 0.1mm. The fabric has silty quartz. Common poorly sorted sub angular slightly frosted quartz mostly in the range 1mm - 1.75mm, with a moderate scatter of sub rounded to sub angular grains between 0.1mm and 1mm. Moderate quantities of soft red / brown iron, some platy most rounded poorly sorted 0.1mm - 1.5mm. Moderate quantities of body coloured sub rounded clay pellets mainly 1mm to 2.5mm: these have fine to medium quartz like the body clay. Appears to be hand made.

Fabric 4: Light firing (cream) with an unoxidised core. The fracture is quite even and flat to slightly hackly. The fabric has moderate to common muscovite visible on the surfaces from under 0.05mm to 0.2mm, with most being 0.05mm or less. The fabric has a background of common quartz silt under 0.2mm. Moderate quantities of sub angular frosted quartz (rarely white), very poorly sorted, from 0.1mm to 1.25mm. rarely iron stained. Moderate rounded soft red / brown iron from under 0.05mm to 0.1mm. Moderate to common white sub-angular

unidentified mineral with very fine crystals, ranging from under 0.05mm to 0.3mm. External glaze is a good reduced green lead suspension glaze without the addition of copper. The glaze is slightly pocked but this is likely due to pits and voids in the fabric.

#### DATING:

See Discussion of Dating section below for details. Suggested date ranges for the different fabrics are:

Fabric 1 - ?late twelfth - thirteenth century.

Fabric 2 - ?late twelfth - thirteenth century.

Fabric 3 - ?late twelfth - thirteenth or fourteenth century.

Fabric 4 - thirteenth - fourteenth century.

#### DISCUSSION:

Pottery made from clay containing grit sized (up to and over 1mm diameter), usually angular, quartz, is widespread over much of northern England, from South Yorkshire in the south to southern Scotland in the north (eg Jope 1955a, 86-7, Jope 1955b, 323-5) in the medieval period.

A recent review of gritty wares in west Yorkshire has suggested that nomenclature has sometimes been inconsistent and published fabric descriptions insufficiently detailed to allow reliable comparison between sites (Cumberpatch 2007).

The earliest of the post-conquest gritty wares is commonly made from white or cream firing clays with coarse quartz in a fine textured body (Vince in Mainman and Jenner 2013, 1179), probably deriving from Coal Measures clay deposits (Vince and Young 2007, 257). The shrinkage of the clay on drying and firing causes the quartz to protrude from the surfaces, giving the surface a 'pimply' texture (Jennings 1992, 14). Jars and bowls are the main forms encountered; pitchers are less common (Slowikowski 2000, 73, Vince and Young 2007, 257). Vessels are generally unglazed, wheel thrown, thin walled and may have pronounced rilling and throwing rings; rim forms are often square in section though other forms occur (Vince and Young 2007, 257, Mainman and Jenner 2013 fig 440-442). It has been suggested that the range of similar but different fabrics indicate that several Gritty ware production sites came into existence in the later eleventh and twelfth centuries (Mainman and Jenner 2013, 1184). At York Jennings noted that it was 'still commonly available in the early part of the thirteenth century' (Jennings 1992, 13), but residuality is an issue: it was also stated that "beyond the twelfth century the quantities ... suggest continued production ... masked by inevitable redeposition" (Mainman and Jenner 2013, 1184). Such pottery has been known by a variety of names including 'Pimply Ware' (Jennings 1992, 14); in York it is simply 'Gritty Ware' (Brooks 1987, 150); for sites on the A1(M) Darrington to Dishforth road scheme it was termed 'Yorkshire Gritty Ware' (Vince and Young 2007, 255-7).

The Yorkshire Gritty ware products are part of a definable potting tradition with a restricted range of forms that is recognisable over a wide area. Vessels made from gritty clays later in the medieval period are not so easily recognised as part of a tradition: they share the basic characteristic that they are made using gritty clays but beyond this there is little in the way of similarity of form, decoration, manufacturing / firing techniques etc that would be seen in pots sharing a tradition.

On the A1(M) Vince and Young defined 'gritty fabrics not falling within the definition of Yorkshire Gritty ware have been termed "Northern Grittyware". The range of individual fabrics falling beneath this umbrella is wide, as is the colour variation and rim typology' (Vince and Young 2007, 257). Young and Vince suggest that this type is best regarded as a tradition with local variations of form and fabric. They suggested that it represents an extension of the gritty ware tradition into the medieval period. Northern Grittyware was sometimes made at the same sites as the local sandy wares but does not appear to have been made at the same sites that were producing Yorkshire Gritty ware at an earlier period (Young and Vince 2010, 113). To some degree the adoption of Vince and Young's definition in this report risks adding to the confusion of nomenclature noted by Cumberpatch (2007); the appellation 'Northern Grittyware' has been used previously to refer to more specific groupings of pottery, for example at Sandal Castle, pottery type 7c, (Moorhouse 1983, 88). However, it is in this loose

sense, following Vince and Young, that sherds at Bainbridge have been classified as Northern Grittyware (NGR).

As such, NGR should not be seen as a grouping of the products of a single potter, or the products of a group of potters working in one area, or even of a potting tradition where potters in disparate areas share common forms, beyond the common use of gritty inclusions in their pots. This latter trait may be no more than a consequence of the available resources; a potter may only have access to clay containing grit sized quartz within a reasonable distance of their workshop, or if they added temper to their local clays, they may only have had access to gritty sand. As such, all that potter's wares would be gritty by virtue of nothing more than raw material availability, and would not necessarily result from a conscious choice to produce 'gritty wares'. However, where the potter had choice in raw material selection, the use of grit could be deliberate and have functional or other reasons. Cumberpatch has noted that it is 'most unusual' for gritty wares to be devoid of traces of sooting (Cumberpatch and Roberts 1998-9, 147), suggesting that these wares were primarily employed in the heating of their contents. In such contexts, the presence of large inclusions in the pot fabric may impart a functional advantage in resisting cracking caused by thermal shock to a greater degree than a pot with finer sand does. However, Cumberpatch prefers to see the use of gritty fabrics as something that transcended simple matters of functionality; he argues that the texture and colour of pots had meaning to their users, and may have been related to 'the status and symbolic associations of the food and drink with which [the pots were] associated' (Cumberpatch 1997, 148). If Cumberpatch's arguments are accepted, then even the very broad definition of NGR used here (gritty inclusions in any vessel that does not fall within the definition of Yorkshire Gritty) may cover pots that belong to a tradition, in the very broadest sense, that may have had a specific meaning to the makers and users of such vessels due to their large inclusions.

There were four distinct fabric types amongst the wares classified as NGR at Bainbridge.

It is highly unlikely, though not impossible, that the fabrics were produced at the same site. They probably represent different clay deposits, with fabrics 1, 3 and 4 both using low iron clays, but with inclusions (particularly the mica) suggesting the clays come from different sources, and fabric 2 possibly exploiting a more iron rich clay. They may also represent different traditions of manufacture, with fabrics 1 and probably 2 wheel made and fabrics 3 and probably 4 hand made. This may also suggest different manufacturing sites, though in some wheel using industries hand forming was also employed for certain forms. The use of hand forming is unlikely to have any chronological implications and does not represent inferior technology; in Lincolnshire, for example, shell tempered pottery was produced on the wheel in the late Saxon period, but manufactured by hand in the post-Norman conquest period. The widely distributed hand formed shell tempered wares of Potterhanworth, near Lincoln, continued in production into the fifteenth century (Young, Vince and Nailor 2005). A similar picture is seen with Staxton type ware in East Yorkshire, where production of a range of hand formed vessels, mostly jars and bowls, in a coarse sandy fabric (Brewster and Hayfield (1992, 52-76) took place between the late twelfth and mid fifteenth centuries. The ware was widely distributed but was noted by Slowikowski to be uncommon on sites after the mid thirteenth century (Slowikowski 2015, 9).

The vessels classified as NGR fabric 1 appear to be unglazed jars or bowls and have sooting, suggesting they were used for heating their contents. Tiny flake ACI however appears to be in this micaceous fabric and is glazed, suggesting the industry may also have been producing glazed vessels which are most likely to have been jugs. As the glaze does not appear to be pitted it may be a suspension glaze and suggests production in the thirteenth century or later. Locally the oxidised gritty wares are considered to be mainly a product of the twelfth and thirteenth centuries (Freeman, Bown and Austin 2007, 409). However, Young and Vince's comment that Northern Gritty wares were sometimes made at the same sites and the local sandy wares (2010, 113) could mean that unglazed gritty wares were accidentally glazed by glaze falling or dripping from adjacent sandy wares during kiln loading and firing cannot be excluded.

The single example of fabric 2 is too small to determine if it was wheel made or hand built. The firing regime produced a brown vessel with black core, which is similar in appearance to Cumberpatch's 'brown sandy ware' fabrics (Cumberpatch nd, np) (though AAK is, just, gritty, rather than sandy). That the glaze has decayed to such a degree makes identification of its type difficult: in Derbyshire and South Yorkshire the brown sandy wares appear to start in the late Saxon period; splash glazed examples occur in the early medieval period, and continue to suspension glazed fabrics from the thirteenth century onwards (Cumberpatch 2004, 89-92). As the visual appearance of AAK is mainly a product of the clay type (iron rich) and firing regime (probably short and not particularly hot), it may well be that the fabric is not related to the brown sandy ware tradition of Derbyshire and South Yorkshire: it may be from an entirely unrelated local industry producing gritty wares that was economic with fuel, for example. The dating applied to the Derbyshire and South Yorkshire brown sandy wares may therefore not apply. However, site finds suggest a general refinement of firing technology in the pottery producers of the region and suggest that, unless the vessel was (in modern terms) a 'second', it is more likely to be early.

Fabric 3 was also represented by a single example. It is an unglazed hand made gritty ware. An absence of rim sherds in this fabric means it is currently not possible to determine whether this fabric, which has coarser inclusions than the quoted size range of Staxton ware (Slowikowski 2000, 74) is related to the widely distributed Staxton type wares and the related north eastern variants such as are found at Hartlepool (Wrathmell 1990, 379) which are also known as East Cleveland wares (Vyner 1992, 46; Sherlock 1990, 90) or is something else entirely. Production at Staxton and Potter Brompton was long lived, often dated from the late twelfth to fifteenth centuries (Le Patourel 1979, 84) but the ware is not commonly found on consumer sites after the early thirteenth century (Slowikowski et al 2015, 3); a similar dating has been suggested for the East Cleveland ware (Sherlock 1990, 90). If it is related to the Staxton and East Cleveland traditions, ABA might be expected to have a similar dating.

The two fabric 4 vessels are both glazed and are most likely to be jugs, urinals or other hollow vessels to which a glaze was commonly applied. They do not appear to belong to the same tradition as fabrics 1-3 and it is only the presence of the odd grit sized quartz grain that has seen them classified as NGR. The suspension glazes suggest a thirteenth century or later date. It is possible that Bainbridge fabric 4 is related to the Reduced Greenwares of Northern England: At Newcastle Reduced Greenwares of types 1 to 3 were described as variously abundantly gritted with large grits (types 1 and 2) to sparsely gritted with fine grits (type 3); in colour they are described as grey with whitish or buff surfaces (types 2 and 3) (Ellison 1981, 107-8. They were present in phases 1 to 3 (early thirteenth to early fourteenth century) and residual by phase 4 (mid fourteenth century) at the Castle Ditch, Newcastle (Harbottle and Ellison 1981, 78). This fabric in particular may be a candidate for re-classification in future work.

Four of the vessels classed as NGR bore traces of sooting (see section on sooting below).

Fabric 1 includes a large spall from the knife trimmed base of a vessel (AAC). This fragment is interesting as it contains the marks of finger impressions (see large sherd in middle left of Plate 08) which suggest it was added to the base of a vessel during manufacture (while the pot was still wet, well before firing). It seems likely that, during initial manufacture, the base of the vessel was made too thin for some reason (perhaps when cut off the wheel the depth of the inside of the pot was misjudged so the base was cut too thin at the centre) and an extra disc of clay was pressed into the underside (exterior) of the base to thicken it. The finger, or knuckle, impressions resulted from pressing the disc into the base of the vessel in an attempt to make a strong bond. They are present on both sides; on the exterior as recognisable finger impressions and on the interior as raised lumps corresponding with each of the finger presses. Once the disc was attached, the evidence indicates that the outside surface of the base was trimmed with a knife, but traces of the finger presses where they were deepest were too deep to be trimmed away. The finger presses were done with the intent of helping this patch stick to the base of the pot. However, the surface texture of the spall suggests that when the join was attempted the two pieces of clay (the pot and the disc) were not wet enough to allow them to bond properly. Consequently, at some point during use or perhaps

(less likely) on discard, the entirety of the piece of added clay detached from the base of the vessel.

### **Tees Valley type Ware (TVW):**

A total of ten (10) sherds from a minimum of ten (10) vessels, with a combined weight of 57.3g, were identified as Tees Valley type ware or possible Tees Valley type ware. Identification was based on published fabric descriptions (Wrathmell 1987, 39, Vince 2010, 244-5) and on direct comparison by eye and under low power magnification with sherds published as TVW from St Giles hospital, Brompton Bridge (Maxwell 1995, 171-5). The majority of vessels were in Wrathmell's fabric B (7 sherds), with 2 examples tentatively identified as fabric C. One sherd (ACF) was identified as a possible fabric A. This latter identification was based on the similarity of this fabric to one of the several fabrics classified as TVW fabric A at St Giles, though it does not fit the published description of TVW fabric A as defined at Hartlepool (Vince 2010, 244-5). It may therefore be a medieval non-local ware rather than a Tees Valley ware. One of the vessels, a jug (ABJ) in fabric B, has a firing crack, but this need not indicate local production.

#### **FORMS AND DECORATION:**

The identifiable vessel forms are jugs and a jar, the latter probably handled.

AAH is a body sherd from the shoulder of a large jug in fabric B (Figure 32). It has a horizontal cordon. The external glaze is colourless, appearing a yellowish orange over the pinkish orange, unslipped, body. Beneath the cordon the glaze is coloured with a vertical line of dark green copper colourant. Where the sherd is broken the coloured glaze can be felt to rise up, possibly indicating that it covered applied decoration such as a scale (see ABF).

ABF is a body sherd from the neck of a jug in fabric B (Figure 32). It has a thick creamy white slip under the glaze, giving the external suspension glaze a yellow appearance apart from some diagonal red streaks where the body shows through the slip. There is a vertical line of applied scales, made of the same clay as the slip. The glaze over the applied scales has been coloured green using a copper colourant, though this has produced a more watery green than the dark green seen on AAH.

AAL is the rim of a large jar (Figure 32). The rim is slightly everted from vertical, has an externally bevelled edge and a slightly concave interior (perhaps a lid seating). This form is identical to Addis 1976 no. 114, from Hart; Barrett 1985 no. 68, Patterson 1985 nos. 3, 37, all from Yarm; and Wrathmell 1987 nos. 46, 66, Wrathmell 1990 nos. 18, 21, 33, 44 from Hartlepool. While no evidence for handles survives on sherd AAL, the parallels indicate that the vessel most likely had two handles springing from the rim. It is unglazed. The sherd has internal and external sooting, probably from use, and the fabric has been heavily burnt, probably after breakage. Despite the burning which has altered the colour, the inclusions suggest that this vessel is in fabric B.

ABJ is a body sherd from a jug in fabric B. The sherd is misfired, being black with an orange interior surface. One of the edges is also oxidised to orange, indicating that the crack was present during firing. The vessel may have been a second but the crack may also not have had any significant impact on the vessel function; the glaze has not run into it suggesting it was narrow, allowing oxygen in during firing but not glaze and consequently probably not letting beer or other contents of the jug leak out. The external suspension glaze is a dull green with an area of darker green, possibly remains of copper colourant. The glaze is somewhat rippled and bubbled, suggesting it may have been burnt (probably post breakage). The firing crack does not need to indicate production in proximity to the site, for the reasons above.

ACA is from the neck of a jug in probable fabric B. On the exterior there is the remains of a handle attachment for what appears to have been a rod handle. There are two small finger tip impressions on the interior where the handler has pushed the body of the pot into the handle to try to create a firmer join (which, given the way the handle appears to have pulled off, did not work!). There are a few accidental spots of clear glaze on the exterior appearing yellow /

orange except where the fabric has reduced under the larger of these, making it appear green in the centre.

ACM is a base in fabric B. The underside is somewhat convex and the exterior wall and base are knife trimmed; burring suggests that the exterior walls were trimmed first followed by the underside of the base. One of the knife strokes to the wall has cut a divot out of the side. There is brown glaze to the exterior wall but post depositional damage has flaked most of it away, making it impossible to assess whether it was an accidental spot or a run of glaze. The exterior margin of the vessel is dark grey; the interior surface has an off white surface that appears to be due to firing, not a slip.

AAF is a body sherd from a jug, jar or bowl, most likely a jug or jar. It has a white external margin and surface that is due to firing, not a slip. It appears to be fabric C.

ACH is a body sherd from a jug, jar or bowl in probable fabric C. It has a pale external margin with an external white slip. There are a few tiny accidental spots of glaze on the exterior that are colourless, appearing yellow over the body.

Two other sherds may be from Tees Valley ware vessels though the identification is uncertain. Of these, ACF is a base sherd from a jar or jug in a hard white fabric that is tentatively identified as TVW A. The vessel is knife trimmed to the exterior and has either widely spaced thumbing to the exterior wall or trimming producing external irregularity. The base is only slightly convex. There is some external sooting.

ACJ is a handle (Figure 32). It is a fat strap handle and has a parallel pair of low ridges running along its upper surface. The handle is reduced / unoxidised dark grey, with a bright orange exterior margin. The glaze appears orange over the unslipped fabric, except on the underside where it appears green over an unoxidised patch of fabric. A similar form of handle is seen on a Tees Valley ware jug from Church Close, Hartlepool (Wrathmell 1995, fig 34:37). The fabric is similar to fabric B but has more common inclusions, particularly iron, than the other examples of this fabric from Bainbridge. This discrepancy may be because it is a handle: in some industries there is evidence that handles were deliberately tempered with a higher proportion of inclusions than the body of the vessels in an attempt to make them dry and shrink at the same rate as the body of the pot, to prevent the thicker handles pulling away from the vessel due to greater shrinkage (J Young pers comm). I am at present not aware of any published evidence that the Tees Valley ware potters did this.

#### FABRICS:

**Fabric A:** A hard, white firing fabric. This fabric has a smooth, clean background. There is common muscovite mostly under 0.05mm and common sub-rounded to sub-angular clear quartz, with occasional white examples. Most is in the range 0.4 to 0.7mm, though occasional grains go to 1mm and one is 2.5mm. Spherical red and brown iron between 0.2 and 0.5mm is common. Rounded white clay pellets from 0.3 to 0.5mm occur in moderate quantities. Sparse lumps of sandstone up to 2.5mm are encountered in two types: one has well sorted grains of circa 0.4mm and a white cement that does not react with acid; the other has grains between 0.2 and 0.4mm and an iron rich cement.

**Fabric B:** An iron rich fabric, firing to pinks to reds in an oxidising environment with the majority from Bainbridge appearing pinkish orange. The clay background is notably clean and smooth. Common inclusions are sub angular quartz, sometimes iron stained, ranging from under 0.05mm to just around 1mm, very rarely to 1.5mm; most is under 0.75mm. There are also yellow to white rounded clay pellets and rounded (some appearing almost spherical) red iron rich particles. Streaks of iron poor (white firing) and iron rich (red firing) clay are also present; the white sometimes occurring in association with the white clay pellets suggesting they may derive from it; where clay pellets are present without white streaks it is probable that the two clay types have been more completely mixed, though whether deliberately or by natural processes is unclear. These streaks range from the occasional small streak (as in AAH) through to extensive contamination in ACA giving the fabric a marbled appearance in section. Some of the quartz is iron stained, and occasional aggregate sandstone pieces with iron cement are present.

Fabric C: Closely similar to fabric B but distinguished by the smaller overall size of inclusions, mostly up to 0.5mm with rare larger quartz grains to 1mm. The examples are also somewhat lighter in colour, but the softer nature and lighter colour suggested for fabric C (Wrathmell 1987, 39) may represent no more than a lower firing temperature of fabric B, rather than indicating a different fabric.

#### DISCUSSION:

Hartlepool Type ware was first defined at Hart Manor (County Durham) by Addis (1976, 103). Hartlepool Type ware appears to have been subsumed into a more general category of Tees Valley ware (McCarthy and Brooks 1988, 227). Tees Valley Ware was first defined at Yarm (North Riding, Yorkshire). Working on the pottery from Yarm, Barrett was sceptical of the distinctiveness of Hartlepool type ware, preferring to subsume it within 'the other pottery from the site' (Barrett 1985, 67). Patterson proposed the name Tees Valley Ware for this 'other pottery from the site'. She was working on pottery from a different season of excavation at Yarm and identified five fabrics in her Tees Valley Ware (some being just reduced versions of others) (Patterson 1985, 68-9). A subsequent division of Tees Valley Ware into three fabric types was proposed by Wrathmell for the Hartlepool Southgate site (Wrathmell 1987, 38-9) and Hartlepool Church Close (Wrathmell 1990, 379, 382). Fabric A was described as hard, light firing, buff to white in colour with gritty inclusions (i.e., some or all over 1mm in size). Fabrics B and C were more iron rich, firing pink-red (B) and pink (C): B was, like A, gritty in texture while C had finer inclusions than both; in 1987 fabric C was described as having bands of white clay in the body and 'buff-grey fired surfaces, perhaps slipped' but these details had been dropped from the description by 1990 (Wrathmell 1987, 39, 1990, 379-82).

At St Giles, Brompton Bridge, Maxwell was able to recognise Wrathmell's fabric A but could not consistently differentiate between fabrics B and C. Maxwell therefore abandoned the fabric C category and catalogued all sherds with an iron rich fabric as fabric B (Maxwell 1995, 171). Later scientific examination of Tees Valley Wares by Vince, including petrological and chemical analysis, confirmed that there was no chemical or petrological difference between fabrics B and C (Vince 2010, 245). It should however be noted that Vince, in stating: 'Tees Valley B Ware is sometimes defined as a red earthenware with a white slip ... Tees Valley C ware is defined as a similar red earthenware without the use of white slip' (Vince 2010, 245) appears to have been following Didsbury's interpretation of Wrathmell's classification. Didsbury states that 'Type C was used for vessels having white-firing surface slips, or laminae within the body of the pot' (Didsbury 2010, 224) and from his discussion it appears that he considers the presence of slip as the *only* characteristic used to define fabric C (Didsbury 2010, 224-5). This is contrary to the published descriptions; Wrathmell noted the presence of slip on only one out of the four vessel classes in fabric C at Church Close (Wrathmell 1990, 382, form CGE). The original description of fabric C mentioned bands of white firing clay in the body and a 'possibly slipped' surface in the fabric description (Wrathmell 1987, 39); the latter point was expanded upon: 'where unglazed, the external surface is discoloured to buff-grey, perhaps the result of chemical changes during firing' (Wrathmell 1987, 41). The description makes it clear that the presence of surface slip is not a defining characteristic of fabric C and indeed the very presence of a slip is questioned by the original author. This is reinforced by the 1990 fabric description which omits all mention of white streaks and surface colour, emphasising that it is the smaller size of inclusions and softer, lighter coloured, body that distinguishes fabric C from fabric B (Wrathmell 1990, 382).

Consequently, it is possible that the samples sent to Vince for analysis did not conform to Wrathmell's published descriptions of fabrics B and C: they could have consisted entirely of either B or entirely of C, just with and without slip. As two iron rich TVW fabrics can be distinguished at Bainbridge, Didsbury's recommendation that 'future work on Tees Valley Wares from Hartlepool should employ a simple bipartite division into Types A and B' (Didsbury 2010, 225) is not upheld, and, due to the similarity in description of the Bainbridge sherds to Wrathmell's fabric C, the fabric C classification is retained in this report.

As the iron rich Tees Valley Wares from Bainbridge appear to have two different but related fabrics, Wrathmell's divisions of fabrics B and C have been tentatively retained in this report. It may prove that further finds from the site do not maintain the relatively clear division

between the two fabrics, in which case they can be merged. However, if the difference of fabric does appear to be upheld when / if additional sherds are recovered, if the different fabrics have been grouped it will not be possible to separate them out from already quantified data without recourse to the original material. It is thus considered better to split now and merge later if necessary, rather than lump now and regret later.

The Tees Valley type wares from Bainbridge are therefore classified as such due to the visual similarity to fabrics identified as Tees Valley ware at the hospital of St Giles, Brompton Bridge, in addition to comparison with Vince's 2010 fabric description and Wrathmell's 1987 and 1990 descriptions.

Only one sherd from Bainbridge was identified as a possible TVW A. This was identified on the basis of a microscopic similarity of the fabric to some of the vessels identified as TVW A at Brompton Bridge. Though most of the inclusions mentioned in Vince's petrological description are present in the Bainbridge sherd they are somewhat finer overall; perhaps more critically Vince did not note the presence of muscovite in the TVW A from Hartlepool which is present in the Bainbridge sherd. These variations may be significant: Vince noted that 'inclusions in this fabric varied little in character or quantity' at Hartlepool (Vince 2010, 245). There is therefore the possibility that this vessel and the vessels with similar fabrics from St Giles are either not from the same source as the TVW A at Hartlepool or that they are not Tees Valley ware A. The latter possibility is mentioned above (pottery report introduction, page 51); essentially there appear to be a number of industries making pots with similar rim types and decoration to those defined as Tees Valley A (including possibly Barnard Castle / Teesdale; Thirlby (North Yorks) and Ellel (White 1994, see for example illustrated vessels 1 and 48-69)). It is unclear how the manufacture of TVW type rim forms on other production sites fits in with the Hartlepool material: Vince's chemical analysis suggested that some TVW A from Hartlepool plotted out in clusters of samples from the Hambleton Hills and from Ruswarp Bank near Whitby (Vince 2010, 245). The Thirlby kilns (Hayes 1988, 139-40) produced vessels of similar form and decoration to some of the TVW A vessels, as noted above, and are located at the southern end of the Hambleton Hills: a similarity of form and perhaps fabric between Tees Valley and Thirlby products has previously been noted at Tollesby (Cleveland) (Sherlock 1990, 92).

While the Bainbridge sherd thus appears to be similar in fabric to some of the vessels classified as Tees Valley ware A at Brompton Bridge, it does not closely match the description of Tees Valley A at Hartlepool. It may therefore be from the same source as some of the pottery from St Giles, but may not be from the same source as the Tees Valley A at Hartlepool. Indeed, it may not actually be the same pottery as that defined as Tees Valley A at Hartlepool.

The vessels identified as TVW fabric B at Bainbridge have fabrics that match vessels identified as TVW B at St Giles. The fabrics additionally match the petrological description of fabric B at Hartlepool (Vince 2010, 245). Further, the forms, methods of manufacture, and decoration, all match the published descriptions of Hartlepool type and Tees Valley wares. It is therefore probable that the pottery classified as Tees Valley ware B (and C) at Bainbridge belongs to the Tees Valley ware tradition and likely comes from the same source or sources as the Tees Valley Wares at other sites including Hartlepool, though scientific analysis would be required to confirm this. However, the Bainbridge sherds show that different manufacturing techniques were used to produce jugs of very similar visual appearance (see below). This may indicate that more than one source is represented.

Amongst the vessels classified as Tees Valley ware B, the large jugs with bichrome glaze are the most typical and most diagnostic. Large jugs with horizontal cordons like AAH, decorated with bichrome glazes particularly used to colour lines of applied scales (as ABF), were considered diagnostic of Hartlepool type ware when it was first defined at Hart (Addis 1976, 103; nos 182, 183, 186). Similarly the externally bevelled rim, and the large jar form, both present in the form of AAL, was also considered to be typical of Hartlepool type ware (Addis 1976, 103, no 114). With the definition of Tees Valley ware, which included a wider range of forms, these particular 'Hartlepool type' forms and decorative styles were retained as diagnostic of the new Tees Valley wares (Wrathmell 1987, 40-1).

The slip on ABF has been thrown onto the vessel while it was on the wheel rather than dipped, poured or trailed on as is the case with most other medieval industries where slipping is used. This method of application is demonstrated in the uneven thickness of the slip and diagonal red streaks; the latter are produced when larger inclusions in the slip (or body) have been dragged by the potters fingers during throwing, exposing the underlying iron rich body in their wake. Identical red streaks are present at St Giles (for example on Maxwell 1995, vessel nos. 43, 44) and were also noted on TVW found at Barnard Castle (Freeman, Bown and Austin 2007, 398). Vince and Young suggest that the technique of applying slip on the wheel is not a native one but can be paralleled in the Flemish glazed red earthenware industry. This they took as being likely to indicate that Flemish potters were present in the Tees Valley at some point (Vince and Young 2007, 266). Similar influences have been detected in other medieval pottery industries in the north east of England, for example in the complex roller stamped decoration employed in the Winksley kilns (Bellamy and Le Patourel 1970, 116-9).

The similarity of fabric, form, decoration and manufacture all combine to suggest that, if the Bainbridge and Brompton Bridge vessels were not from the same source as the Hartlepool vessels, then they were at least produced by a pottery using virtually identical raw materials to produce a tightly controlled range of products to a very distinct tradition. It is perhaps more likely that TVW B at Bainbridge was supplied by the same source as TVW B at Hartlepool. However, thin section and / or chemical analysis is required before this can be stated as fact.

Fabric C is similar in type of inclusions to fabric B. However, unlike fabric B the quartz is relatively well sorted, the majority being less than 0.5mm in size with only one or two larger grains between 0.5mm and 1mm visible in the fractures of a sherd. The colour is sometimes slightly lighter than fabric B and on both sherds there is a pale whitish yellow margin; that on ACH is under a slip while the surface of AAF appears a pale greyish white without slip. The slightly paler colour and whitish margins may well be no more than a product of firing temperature or local atmosphere in the kiln; the different inclusion size does however suggest a difference between the fabrics defined as B and C. The similar nature of the inclusions, clays and manufacturing techniques appear to suggest a common source. The apparent differences between fabrics B and C at Bainbridge may be a product of no more than a slight difference in geological deposits of clay or sand used (such as slightly different flow rates depositing different size ranges and sorting of fluvially deposited sands in the same channel or palaeochannel) or it might be more meaningful; possibly indicating a different production site exploiting slightly less iron rich clays with finer inclusions manufacturing vessels in the Tees Valley tradition. The broad description of this fabric (finer inclusions and lighter colour than B, lighter coloured surface possibly down to firing) is very similar to Wrathmell's original fabric C defined at Hartlepool (Wrathmell 1987:39: 1990) and it has consequently been defined as Tees Valley type ware C at Bainbridge. However, the rather limited nature of the original description, which did not, for instance, provide details or size ranges of the inclusions (merely stating that fabric C had a 'softer body ... It has only small grits' (Wrathmell 1987, 39), makes it impossible to be certain that the pottery defined as TVW C at Bainbridge is the same, or from the same source, as the pottery defined as TVW C at Hartlepool.

#### SOURCE / DISTRIBUTION:

The production site or sites of Tees Valley ware are unknown. The use of two different clay sources (iron rich (pink / red firing) for fabrics B and C and iron poor (white firing) for fabric A) could indicate more than one production site, but could alternatively represent the exploitation of different clay sources by a potter or potters working at one production site. This is the case, for example, in Nottinghamshire where non-local light firing clays were deliberately exploited from the thirteenth century onwards by the potters of the town in order to produce jugs with a background that would support an emerald green glaze; at the same time the iron rich clays that they had used to make jugs in the twelfth century continued to be exploited for the production of utilitarian forms such as jars, bowls and bottles; that these clays were fired in the same kilns is testified by examples of the iron rich fabrics stuck to the glaze of the white firing jugs fabrics. The use of different clay resources is also seen in the mid / late twelfth century industry at Skegby in west Nottinghamshire (Budge 2010 and in prep); the site is interpreted as a 'pioneer pottery' started in an area with no existing pottery industry that was set up by a potter trained in one of the contemporary, and technologically and typological

related, Lincolnshire or Nottinghamshire industries: the waster material suggests that the potter experimented with a range of different clays that he found in the local area. These clays included iron poor (white / light firing) and iron rich (orange to red firing, when oxidised) and the inclusions ranged from medium sandy in most of the wares to gritty in a few examples; as well as quartz, limestone was present as the major inclusion in some of the fabrics possibly as an experimental attempt to replicate the Lincolnshire shell tempered wares which were very popular at this time for jars and, to a lesser extent, bowls (Budge in prep) This suggests that, when different clay sources were available, potters further south would employ different types of clay and inclusion to produce very different fabrics that could be taken to be the products of completely different industries if not found in direct association as wasters on a kiln site. Unfortunately a general lack of excavated production sites in the north of England precludes assessment of whether this situation was replicated in the north: not only is it not clear whether such differing clay sources were present within the reach of a single production site in the north but it is also not clear if, had they existed, such differing sources were exploited by the same pottery for different products.

The production site or sites of Tees Valley Wares are not known. Earlier studies suggested that the ware was distributed in an area approximately bounded by the 200m contour that is essentially the Tees Valley area (Didsbury 2010, 225-7 for discussion); this would imply that a kiln or kilns were situated somewhere in this area, probably close to its centre. TVW was the main ware type at Brompton Bridge, Yarm and at Hartlepool; if kilns were closer to one of these sites than the others differing proportions of the ware would be expected at each of the sites. It has been suggested that an annotated photograph dated 21.9.85 indicating, and possibly showing, a medieval pottery kiln, may relate to the production site of Tees Valley Ware. The photograph may have been taken during excavations at Low Dinsdale Manor, conducted in 1885. Due to this photograph it has been speculated that Low Dinsdale Manor may have been the source of Tees Valley Ware (English Heritage 2002, event no 1198). Alternatively, it has been suggested that the site was associated with seventeenth century production of stonewares (NMPPC database event no 1129). Low Dinsdale is 7km west of Yarm, on the River Tees and would thus be reasonably placed in the centre of the distribution zone of the ware with water transport along the Tees: if a medieval pottery kiln was discovered here it is not impossible that it could be the source of TVW. However, in the absence of any excavated vessels from this site, it is impossible to be certain. It is possible that Tees Valley ware A was produced at a different site to fabrics B and C: Vince's petrological analysis suggested similarities in clay source between the Tees Valley A from Hartlepool and the products of the Ruswarp Bank kiln near Whitby (Figure 25 no 19) along with samples from the Howardian Hills to the south (Vince 2010, 245). This, together with the similarities between the TVW A, Thirlby, and local Teesdale fabrics at Barnard Castle (see above for discussion), may indicate that TVW A and TVW B/C are the products of different industries.

#### DATING:

Tees Valley wares are suggested to appear from the late thirteenth century at Hartlepool (Maxwell 1995, 171). The decorated jugs originally defined as Hartlepool type (as AAH; ABF) are typical of the mid thirteenth to mid fourteenth century. The most recent review by Didsbury proposes that production may not have continued into the fifteenth century (Didsbury 2010, 227).

#### **Medieval Local Wares (MEDLOC):**

Nine (9) sherds from a minimum of eight (8) vessels with a total weight of 22.1g were classified as wares that due to their inclusions were likely to be of relatively local, but unknown, manufacture. This, like NGR, is a catch-all code. It includes wares from unknown manufacturing sites considered to be medieval and containing a range of inclusions that are thought likely to be (relatively) local. Inclusion in this category in no way implies any links (other than the above) between the individual fabrics: while some could be the products of a single potter exploiting a range of different clay sources, it is perhaps more likely they are all are products of different potters working at different sites. Until some of the kiln sites in the region are found and analysed it is not possible to assess the range of variability in the fabrics produced by any of the local industries.

The main points of the different fabrics are summarised below, then described in detail further down:

Fabric A - iron rich sandy to gritty ware, bright orange with grey core. Pocked brown glaze to exterior largely flaked off. Could perhaps have fallen within the NGR category but grit sized quartz rare. Probably jug.

Fabric B - pale yellow sandy ware. Jug jar or bowl. External sooting to knife trimmed base.

Fabric C - soft fine orange micaceous fabric. Jug with thumbled base.

Fabric D - very soft, coarse, bright orange, very micaceous, only sparse coarse quartz and very large iron rich clay pellets; traces of external glaze on AAM suggest jug.

Fabric E - orange slightly soft fine - medium quartz. Jug rim or handle.

Fabric F - pinkish brown very fine sandy with sparse medium quartz; external copper green glaze.

#### FORMS AND DECORATION:

Sherds are small, few can be assigned to vessel class with great confidence. However, both AAD (fabric C) and AAB (fabric F) come from thin walled, probably small, glazed jugs. AAD is from near the base and has thumbing, indicating that the vessel had thumbled feet. AAB has a glaze enriched with copper. AAP (fabric E) (Figure 32) is from a jug; it may be a rim or part of a strap handle: the sherd is too small to be sure. The glaze on AAU (fabric A) suggests it is probably from a jug. AAM (fabric D) has slight traces of a glaze surviving and possible decoration consisting of incised lines in a geometric pattern and impressed patterns of uncertain form. It is thick. It could be from a large jug or perhaps a curfew or similar large decorated form but it is impossible to be certain. The remaining sherds may be from jugs, jars or bowls.

#### Fabrics:

Fabric A: One example, AAU. Oxidised dull orange with internal red surface; ext margin yellow to grey. Matrix looks 'dirty'. Abundant fine quartz silt under 0.05mm. Moderate silver and gold mica in surfaces from under 0.05mm to 0.2mm. Moderate rounded red / brown iron poorly sorted from 0.05mm to 3mm; this iron contains common muscovite and biotite of similar sizes to that in the fabric and fine quartz silt or iron poor clay pellets. There is also sparse sub-angular purple iron ?ore to 2.5mm. The clay has occasional streaks and pellets of iron poor (cream firing) clay. Quartz is sparse to moderate in quantity, poorly sorted, sub angular to sub rounded and ranges from c.0.25mm to 1.5mm. There are also moderate quantities of a sub angular white unidentified mineral moderately sorted between 0.05mm and 0.3mm. The external glaze on sherd AAU is brown and pocked. Much is flaked off but it was probably a suspension glaze. The clays used for fabric A are similar to those used for fabric D but are cleaner and better mixed than D.

Fabric B: One example, AAZ; jug jar or bowl. Fabric B is a buff sandy fabric. The quartz is similar to TVW C and like TVW B and C includes occasional iron stained examples. The fracture is uneven and hackly. The fabric has common moderately sorted sub rounded to sub angular quartz ranging from less than 0.05mm to 0.9mm. It is mostly clear with slight frosting but occasional iron stained examples are present. Moderate quantities of iron are soft rounded red / brown pellets that are moderately well sorted and range in size from 0.05mm to 0.30mm. One pellet is spherical as also seen in TVW. There are moderate rounded pale yellow to cream clay pellets c.0.5 - 1mm. Moderate to common amounts of fine silver mica (muscovite) are present at the surfaces; they are under 0.1mm.

Fabric C: One example, small jug AAD. Like fabrics A and D, an iron rich highly micaceous fabric. Oxidised to orange. The fracture is slightly uneven and flat. The fabric contains abundant muscovite plates up to 0.4mm, though mostly under 0.2mm, and sparse biotite. There is common fine quartz under 0.05mm and sparse to moderate sub angular clear quartz, well sorted in the size range 0.1mm to 0.3mm; occasionally up to 0.5mm. Moderate soft rounded red / brown micaceous iron pellets are poorly sorted and range from very small to c.1mm. Sparse rounded unidentified white minerals to 0.2mm and sparse iron poor (light orange) rounded clay pellets to 1mm are also present. The external suspension glaze is decayed and has flaked away but was smooth and not pitted.

Fabric D: four sherds from three vessels. AAM is a thick walled vessel with what appear to be deeply incised lines forming a geometric pattern on its surface; it appears to have broken along two of these lines into the triangular shaped sherd. There is remains of a decayed ?brown glaze of uncertain type remaining in pits and impressed ?comb or ?stick decoration on the surface. AAT is a flake from the inside of a hollow form. ACL is a chip from an unknown form. The fabric is iron rich and highly micaceous. In AAM and ACL it is quite soft, though AAT is harder. The fracture is uneven and hackly to flat. Abundant silver and gold mica (muscovite and biotite) are present at the surfaces and in the fractures ranging up to 0.2mm. The fabric of AAM is particularly mixed, containing iron poor (off-white) firing streaks and thicker bands of less iron rich clay, firing to a pale orange rather than the stronger orange of the rest of the body. Two types of iron are present: moderate quantities of rounded soft red / brown granular pellets which have abundant mica, quartz silt and occasional rounded brighter red iron pellets. These are poorly sorted and range from c.0.1mm to 8mm. They are similar to the pellets seen in fabrics A and C. There are also common to abundant soft rounded bright red iron pellets. poorly sorted, from 0.2 to 1.5mm. They do not have the mica of the other pellets. Aside from a common quartz silt under 0.05mm in size, quartz is sparse in the main fabric, being sub rounded to sub angular and ranging in size from 0.25mm to 1.2mm. The frequency of quartz is higher in parts of the less iron rich clay band, where it could be described as moderate in quantity and ranges from 0.1mm to 1.2mm. ACL and AAT are not as poorly mixed as AAM and lack the bands of less iron rich clays of AAM.

Fabric E: Bright oxidised iron rich fabric. The single example, AAP, is a rim sherd. It is either from a rim of a jug or from a wheel thrown strap handle. It has common silver mica under 0.1mm at the surfaces. There is a moderate background scatter of quartz under 0.05mm. Other quartz is moderate to common, poorly sorted sub rounded frosted and occasionally clear and occasionally white in the range 0.2mm to 0.7mm. Moderate soft rounded red iron (occasionally platy) ranges from under 0.05mm to 0.7mm. The sherd is unglazed and the surfaces may have been burnt.

Fabric F: A single example, small jug AAB. The fabric is a pale orange brown. Moderate quantities of silver mica under 0.05mm visible at the surface is accompanied by a common to abundant quartz silt of similar size, some of which is angular and sparkly at the surface. Clear, frosted and occasionally white quartz is common, moderately sorted, ranging from c.0.3mm to 0.5mm, occasionally to 0.7mm. It is sub rounded to occasionally sub angular pieces. Occasional pieces have iron staining. Sparse rounded cream clay pellets up to 0.6mm are present. Sparse soft rounded red iron pellets in the range 0.1 to 0.3mm are also present. The external glaze is thin and enriched with copper colourant. There is some pitting under the glaze but this might be a product of occasional pits in the fabric rather than indicating the presence of granular lead in the glaze mixture.

#### DISCUSSION AND DATING:

Fabrics A, C and D are likely to be related. They all share an iron rich clay that is highly micaceous and that, when oxidised, fires to a dull orange. They all have in common iron rich micaceous ?clay pellets which seem likely to be the source of the abundant to common mica in the fabrics. The main difference is in the quantity of inclusions. Fabrics A and D have larger quartz ranging up to grit sized. In fabric D the quartz is sparse; in A it is more common. In fabric C the quartz is of a similar type but much smaller, being no larger than 0.5mm and mostly quite a bit smaller. Of the fabrics, D is the 'dirtiest', comprising very poorly mixed clays and a high proportion of iron and clay pellets, while C is the cleanest, with the least lumps and no obvious streaks of poorly mixed in clays. It seems likely that these three fabrics may have been made by the same industry, or by industries using very similar raw materials. The variation in fabric could be accounted for simply by geological variation in the clay deposit used; it might represent deliberate mixing of two types of clay by the potters; or it might indicate that fabric D was used as dug and fabric C (used for a thinner walled vessel) was subject to some preparation to remove the worst of the lumps and impurities before use. At present it is not possible to be sure which is most likely.

At Barnard Castle there is a sherd in unclassified type X described as a 'a heavy, crudely made jug ... soft pink fabric containing large red inclusions... There is no other example of this

fabric or anything like it. From the stratigraphy it would appear to be later 12th century' (Freeman, Bown and Austin 2007, 408). This sounds a little like fabric D in particular, but the published description is not sufficiently detailed to be sure if there is any similarity.

The form and glaze of jug AAD in fabric C is typical of thirteenth to fourteenth century vessels; the apparent use of suspension glazes on AAU (fabric A) and AAM (fabric D) may suggest a similar dating is appropriate. Given the number of vessels present (five) and the relatively poor quality and porous fabrics, which may not have been likely to have been traded far from the production site if better wares (such as the Tees Valley wares) were available, then fabric groups A, C and D are perhaps the best candidates for a Bainbridge 'local' ware, produced somewhere relatively nearby that was able to supply reasonable quantities of pottery to the settlement.

Fabric B is very similar to the Tees Valley B and C wares in terms of its inclusions, but the light firing pale yellow / buff fabric does not fit with the usually more iron rich TVW fabrics. In terms of dating 'buff sandy wares', like the Tees Valley B and C wares, are usually considered to be thirteenth to fourteenth century.

Fabric F with its copper enriched pocked suspension glaze should be dated to the late twelfth century at the earliest and more likely the thirteenth to fourteenth centuries just on the basis of the glaze. Like fabric B, the inclusions are quite similar to TVW, but the dull oxidised firing colour and silty matrix indicate any relationship between it and TVW is likely to be fortuitous.

#### **Late Medieval Local wares (LMLOC):**

A single rim sherd, ABC, was classified as a late medieval local ware.

#### **FORMS:**

The sherd is from a jug with a rather simple rim form (Figure 32 ABC).

#### **FABRICS:**

The fabric is quite high fired with a mid grey core and dull orange brown margins and surfaces. The run of external glaze is fired to a slightly metallic dark purple / brown. The fracture is even and slightly conchoidal. The common, mainly sub-rounded to sub-angular, quartz is clear and frosted and ranges from 0.1 to 0.4mm. There are sparse larger quartz grains, sub angular to sub rounded, frosted and milky, between 1mm and 2mm. Soft rounded red iron is sparse and under 0.1mm. Sparse rounded white clay pellets range to 3mm: they contain common sub angular quartz between 0.05mm and 0.25mm. Sparse white sub rounded unidentified minerals range to 0.2mm.

#### **DISCUSSION AND DATING:**

The vessel is a medieval fabric that has been taken up to a high temperature in firing. The external suspension glaze has consequently fired to a dark brown / purple colour. An increase in firing temperature is seen in a number of industries towards the end of the medieval period, such as the producers of Midlands Purple wares in the Midlands of England. The higher firing temperatures produced a less porous product that was more suited to the holding and potentially longer term storage of liquids (such as beer in the case of the many bung hole cisterns produced by the Midlands Purple ware producers) than medieval earthenwares were. Some northern producers at this time often employed pottery bungs (e.g. Hayes 1988, fig 100) during firing to ensure a locally reducing atmosphere inside cisterns: this had a similar effect of producing a body that was less porous due to the tendency of clay particles to begin to melt at a lower temperature in a reducing atmosphere (Newell 1998/9, 124). While a gradually increasing firing temperature was a hallmark of some pottery industries in the fourteenth and fifteenth centuries, high firing temperatures could also accidentally (or deliberately?) be produced if the vessel was stacked too close to the fire mouth/s of the kiln or if the temperature in the kiln rose accidentally during firing of any medieval kiln. A high fired vessel could therefore be produced accidentally. Without more examples in this fabric it is impossible to be certain that this jug is deliberately high fired. However, the very simple rim form is also seen at Barnard Castle on a number of jugs of this period (Freeman Bown and

Austin 2007 nos 848; 1104, etc.), suggesting that a fourteenth or fifteenth century date is perhaps most likely for this vessel.

## **Post Medieval (early):**

### **Reduced Green Glazed Ware (RG):**

Five sherds from a minimum of three vessels, with a combined weight of 117.1g, were classified as Reduced Green Glazed Ware. They included three joining sherds from a single vessel, ABI; with a combined weight of 115.8g these three sherds form by far the largest part of any vessel in the whole assemblage.

The production of vessels such as jugs, cisterns, jars and chafing dishes in fabrics with few inclusions visible to the eye, often though not invariably fired under reducing conditions and usually having a plain lead suspension glaze, is a ceramic tradition of the North. Ceramic specialists working in different parts of the North refer to vessels belonging to this tradition by different names. These include Late Medieval Reduced Grey Ware in Cumbria (McCarthy and Brooks 1992, 29), Reduced Greenwares in Newcastle (Ellison 1981, 107), Later Green Glazed Ware at Monkwearmouth and Jarrow (Jenner, Mills and Burke 2006, 370) and Reduced Green-glazed Wares at Kendal (Whitehead, Williams and Mace 2013, 103). The division of the Reduced Green Glazed ware fabrics used in this report follows the classification adopted for the castle ditch, Newcastle (Ellison 1981, 107-8).

#### **FORMS AND DECORATION:**

Only ABI is large enough to determine the form. The three sherds of this vessel indicate that it was part of a large hollow vessel that had an external glaze, which has partially flaked off due to being a bad fit to the body. There is, however, no evidence for whether this vessel was a cistern, large jug, or large jar. The other two sherds (AAI and ABH) are both small flakes with only one original surface remaining. They could easily be from similar large vessels. ABH has an external glaze that has decayed to a brown / gold colour. AAI has an oxidised surface.

#### **FABRIC:**

Two fabrics are present. ABI and AAI are micaceous and silty and have occasional larger inclusions. ABH is finer, with no apparent quartz silt and little mica, and it also lacks the larger inclusions.

ABI is a generally fine fabric, reduced to mid grey with a lighter grey external margin. The clay contains silty quartz and is micaceous. Larger inclusions are sparse sub rounded to sub angular clear quartz to 2.5mm, moderate platy organic rich ?mudstone or laminated clay pellets to 2mm, sparse to moderate rounded iron poor (pale grey firing) and self coloured clay pellets to 4mm, sparse sub rounded white unidentified mineral easily scratched with metal, up to 0.5mm. Rounded grey patches in the fabric may be reduced iron rich clay pellets

AAI is similar to ABI but appears to have more iron: it is lower fired and has an oxidised surface which may render the iron more visible.

ABH is finer than ABI and AAI and lacks most of the inclusions visible under the microscope in the other sherds. It does, however, appear to be higher fired, and it is possible that partial vitrification of the fabric has rendered the inclusions that are present difficult to see. There is possibly some sparse mica visible, but the main 'inclusions' that can be seen are long straggly voids in the fabric parallel to the direction of throwing. There are platy impressions of formerly iron rich material, possibly organic rich mudstone or chaff, just visible in the surface where the interior has flaked off. The fabric is reduced to mid grey and has a distinct and sudden change to the lighter grey exterior margin. The fabric is quite laminar, with the inner surface flaked away completely. The exterior glaze has decayed to a brown / gold colour during burial and has partly flaked away.

## DISCUSSION:

Reduced Green Glazed wares were first defined at the castle ditch, Newcastle by Ellison (1981). Six types were defined. The earlier three had varying forms of sandy to gritty quartz temper, and it is the finer types 4 and 5 that are relevant to Bainbridge. Type 4 was stated to be a 'mid to dark grey fabric with black surfaces, also with buff and light red oxidised surfaces ... by phase 5 it is refined to a smooth, hard, extremely uniform fabric with no visible inclusions'. Type 5 is 'a softer lighter coloured fabric than 4, with whitish margins and occasional quartz grits ... internal as well as external glazing is common on cisterns' (Ellison 1981, 108). At Newcastle, the commonest forms were jugs, cisterns and 'storage vessels' in type 4, with cisterns dominant but jugs and chafing dishes present in type 5.

In the Newcastle castle ditch, type 4 was present from phase 4 (mid fourteenth century), dominant in 5-8 (late fourteenth / early fifteenth - early sixteenth century) and residual after 9 (early sixteenth century). Type 5 was present from phases 7 (late fifteenth century) to phase 17 (late sixteenth century), being equal in quantity with type 4 in phases 8 and 9.

ABI, with its sparse grit sized quartz and rather mid grey colour is closest to Ellison's RG5 as defined at Newcastle. However, it does lack the internal glaze suggested as common on cisterns in RG5. While the production of late medieval and early post medieval pottery tended to be by industries that supplied a much wider area than in the medieval period, it is still unlikely on the grounds of distance that Newcastle was supplied by the same manufacturers as Bainbridge. The dating of these wares at Newcastle may therefore not be entirely relevant to Bainbridge. More locally, at Barnard Castle wares that seem to equate to the RG tradition are family group F, later reduced wares. These belong to Phase VIII, late fifteenth to early sixteenth century (Freeman, Bown and Austin 2007, 409).

It is possible that the two different but similar fabrics (AAI and ABI being micaceous and silty, and ABH being finer) are the products of different industries. It is also possible that a higher firing temperature in the case of ABH has partially vitrified the fabric, rendering identification of the inclusions more difficult.

Reduced Green Glazed ware is one of the few pottery types where kilns are known in reasonable proximity to Bainbridge. To the east of Bainbridge is Firs Farm, Healey (near Masham). Large quantities of potting waste originally stated to be late medieval in date were discovered here in 2002 by Northern Archaeological Associates (Evans 2015, 143-4). The dating was subsequently revised to early sixteenth century by a ceramic specialist (Sage 2012, 2). As far as the writer is aware the site has not yet been published and the grey literature reports are not readily available. Indeed, Evans was not sanguine about the possibility of publication when writing in 2015 (Evans 2015, 144-5), though as a discard policy of the kiln material had been enacted by 2012 (Sage 2012, 2), it seems likely that the assemblage had been quantified by that point and it is to be hoped that Evans's scepticism on the probability of publication was misplaced. However, until publication or grey literature reports of the site become available, the fabrics used at Healey and the degree of variation within each, the range of vessel types and the chronology of production are all unknown.

To the west, further away, similar pottery was produced at a similar date at Silverdale and Arnsdale in Lancashire (White 2000).

At time of writing it has only been possible to examine samples of the Healey kiln material. ABI has the same inclusions as wasters from the Healey kiln though there is some difference in the frequency and size of these inclusions. It seems probable that ABI and AAI are products of either the excavated Healey kiln/s or kilns utilising essentially the same geological deposits in the same area as the Healey kiln/s.

ABH appears to have a different fabric. Until Healey is published it is not possible to know if ABH falls within the range of variation in the Healey products; it may be earlier than the production at Healey and could therefore have come from another source, either further east, north east, or in Lancashire. Examination of the Silverdale products, which at time of writing has not yet been possible, is required to check whether such a source is possible; the

published descriptions are insufficient to allow even tentative identification of sherds to this production area.

### **Glazed Red Earthenware (GRE):**

A single sherd with a weight of 1.4g was classified as a Glazed Red Earthenware. Sherd AAV is from a vessel in an orange fabric with fine quartz. It has an internal orange glaze of somewhat pocked character that has either partially decayed or misfired to produce opaque yellow speckles within and at the surface of the glaze. It is possible that the sherd has been burnt, but the changes to the glaze are not typical of the appearance of a lead glaze that has been in a fire, in the experience of the writer.

#### **VESSEL TYPES:**

The surviving profile suggests the sherd comes from a fairly thin walled vessel with internal glaze, probably a hollow vessel of globular form. Such vessels would most likely be jars, pipkins or cauldrons, though frying pans may also be possible.

#### **FABRIC:**

Oxidised to dull orange with occasional grey (?reduced) streaks. Sub-rounded to sub-angular quartz is common and ranges between 0.05mm and 0.25mm: larger sub-rounded grains occasionally occur up to 0.5mm in size. Occasional more iron rich clay streaks and rounded pellets up to 1mm occur. Sparse sub rounded white unidentified mineral easily scratched by metal occurs up to 0.2mm. The internal glaze appears to have misfired: it has bright yellow (possibly ?sulphur) flecks in the surface and around inclusions sticking through the glaze.

#### **DISCUSSION:**

Glazed red earthenwares were imported into east coast ports from Holland and the Low Countries and are found in quantity in places such as Newcastle, Norwich and Hull in late medieval and early post medieval contexts (Ellison 1981, 130, Jennings 1981, 135-6, Watkins 1987, 140-1). Imports have been noted to drop off rapidly in the later seventeenth century at Gateshead (Vaughn 2007, 181). In some areas the Continental products were soon being made using similar clays in England, either by Continental immigrant potters (Ellison 1981, 130) or local potters, with production in east coast areas such as Norwich / East Anglia becoming established in the early sixteenth century (Jennings 1981, 134; 157-8) with similar fabrics and forms used by these local industries. At Scales, Glazed Red Earthenware was considered to occur between the late sixteenth and eighteenth centuries (Young and Vince 2010, 122). A related pottery type, (metropolitan type) slipware may look similar, especially where no slip is present.

The fabric of AAV is not identical to a sample of Dutch Glazed Red Earthenware examined; the production of the Dutch Glazed Red Earthenwares at a number of Continental sites with relatively large geographical spread however means that a Continental origin cannot be ruled out by visual examination alone. However, the distance of Bainbridge from the east coast and the possible firing fault in the glaze perhaps suggests the vessel is more likely to be a 'local' (English) product. The dating could be broad: while if related to Dutch GRE it may be late medieval / early post medieval to seventeenth century, but local copies and metropolitan type slipware continue into the seventeenth and eighteenth centuries (Jennings 1981, 157).

### **Post Medieval (later):**

#### **?Osmotherley type ware (OTW):**

A single sherd with a weight of 1.5g, ACQ, was identified as a possible Osmotherley type ware vessel. The fabric of ACQ is the same as some of the vessels identified as Osmotherley type ware at St Giles hospital, Brompton Bridge.

#### **VESSEL TYPES:**

ACQ is from a hollow vessel with curved walls, internal glaze and partial external glaze. It may be a jar or a dish of similar form to Maxwell 1995 no 84, but is perhaps most likely from a chamber pot.

#### FABRIC:

A fine sandy ware. It is dull orange brown where oxidised and pale to mid grey where reduced (under the internal glaze). The fabric is very 'dirty' with common streaks of iron poor (cream to yellow coloured) clay and rounded to sub rounded pellets of the same, poorly sorted and ranging from 0.1 to 1.75mm. These iron poor clays have sub-rounded to sub-angular quartz from 0.1 - 0.25mm in them. The fabric itself has common fine sub-rounded to sub-angular quartz well sorted between 0.05mm and 0.1mm and moderate amounts of sub-rounded to sub-angular clear quartz between 0.2mm and 0.4mm in size. Sparse sub rounded aggregate sandstone to 1.9mm containing sub-rounded to sub-angular grains ranging between 0.2 and 0.3mm may be the source of some of these. Iron is present in moderate amounts as soft platy red particles up to 0.3mm.

#### DISCUSSION:

Wasters have been recovered from the North Yorkshire village of Osmotherley on the western edge of the Cleveland Hills. These were considered to be fourteenth to sixteenth century in date (Hayes 1988, 136). Wrathmell considered the Osmotherley material to be part of a post medieval tradition that was 'characterised by pink fired bodies without obvious gritting, glazed to green or yellow' and that first appeared in the second phase of Period IV but only became common from Period V (late sixteenth - seventeenth century) at Southgate, Hartlepool (Wrathmell 1987, table 1, 39). Brears notes that a coarseware pottery was reputedly worked at Osmotherley in the late eighteenth and early nineteenth centuries (Brears 1971, 228) while Griffin quotes Jewitt's late nineteenth century work in stating that 'a pottery, discontinued many years back [was at Osmotherley]... Its productions were the ordinary brown ware, in which jugs, pitchers, tobacco boxes &c, were produced (Griffin 2012, 357) .

Osmotherley type ware was considered to be a distinct and separate type to Ryedale ware, the other post-medieval fine fabric green glazed ware at the hospital of St Giles, Brompton Bridge. Here Ryedale ware was isolated as a distinct type, while regarding the separate 'post medieval glazed red earthenware' type it was stated 'some similarities exist with Osmotherley ware' (Maxwell 1995, 179).

Comparison with Ryedale ware from the Stearsby kilns held by York Archaeological Trust (YAT), and with the material identified as Ryedale ware at St Giles, indicates that ACQ is not Ryedale ware. The fabric of ACQ is a very close match with some of the pottery classified as 'post medieval glazed red earthenware' from St Giles, particularly the vessel that (assuming the incised horizontal line decoration present on the sherd was omitted from the published illustration) appears to be illustrated as Maxwell 1995 fig 36 no 93. The fabrics are sufficiently similar to indicate that both sherds are likely to be the products of the same industry. St Giles hospital fig 36 no 93 was found in period 9 deposits, dated to early to mid eighteenth century (Maxwell 1995, 180).

As the glazed red earthenware name is already in use in this report for a specific type of Dutch influenced pottery (see above), ACQ has been catalogued as a possible Osmotherley type ware. This does not, however, indicate that it is Osmotherley ware or that it is even necessarily similar to Osmotherley ware; it does however appear to be from the same source as some of the pottery from Brompton Bridge that was stated to have 'similarities with' Osmotherley ware. Its dating is also likely to be similar to the Brompton Bridge material, that is, predominantly mid seventeenth and eighteenth century.

There are multiple examples of this type of ware found in the Bainbridge village test pitting (classified as 'Green Glazed Sandy ware' by Cumberpatch (nd, np)), suggesting that it was quite widely available in the local area.

#### **Press moulded Slipware, Staffordshire / Bristol type (STSL):**

A single sherd of Staffordshire type slipware dish with a weight of 6.5g was recovered. AAN is part of a press moulded slipware dish. The sherd weighs 6.5g.

#### VESSEL FORM AND DECORATION:

Press moulded dish. It is moulded with decoration that includes a leaf. The interior of the dish was covered with an iron poor slip while the interior of the moulded leaf has been filled with an iron rich slip. This produces the effect of a very dark brown, almost black, leaf on a yellow background.

#### FABRIC:

The fabric is hard and red with occasional streaks of white clay and sparse sub angular white clay pellets.

#### DISCUSSION:

Press moulded slipwares such as this are often considered to be of Staffordshire or Bristol type but they were made at a wide range of places, including a number of potteries in Yorkshire (see Cumberpatch 2010, table 24). The Staffordshire press moulded products are usually made with pale yellow firing clays; more iron rich clays are usually reserved for thrown dishes (Barker 2008, Barker and Crompton 2007, 113-164). However, iron rich, red firing, fabrics are occasionally encountered in Staffordshire products (e.g. at Hull, which was an important port for the shipping of Staffordshire products along the coast (Watkins 1987, 122)). The main fabric in use for press moulded slipwares at Silkstone, Yorkshire, was noted to occasionally have streaks of iron poor clay, white inclusions (probably clay pellets?) and red non-crystalline inclusions (probably iron ore or iron rich clay pellets?) and a firing colour from buff or orange buff to mid orange (Cumberpatch 2006, 185).

While AAN may be a Staffordshire product it is possible, on grounds of proximity, that it is of more local manufacture.

#### DATING:

Typically late seventeenth - eighteenth century.

#### **Slipware (SLIP):**

Three sherds from three vessels with a combined weight of 6.9g were classified as general slipware. Two (ACX and AAJ) may be related to Staffordshire-type Slip Coated / chocolate dipped wares (Barker 2008), consisting of hollow forms produced using buff fabrics and red slips, resulting in a very dark brown glaze over the slip. The other (ABM) is a Northern type of slipware, used for coarse vessels and having a brick red fabric with an internal white slip

#### VESSEL FORMS:

ABM is from a large, quite thin walled, bowl. It has slight evidence of knife trimming to the exterior wall, suggesting this sherd comes from near the base. ACX and AAJ are from hollow vessels but the sherds were too small to elaborate further except in the observation that the curvature and alignment of the throwing rings suggest ACX is more likely to be from a globular vessel rather than a straight sided mug.

#### FABRIC:

ABM has a hard, brick red, fine sandy fabric and an internal white slip. The latter appears a pale yellow colour under the clear internal glaze. The exterior is unglazed.

ACX and AAJ have fine buff fabrics. ACX has common fine quartz and common fine to medium sized rounded yellow clay pellets along with common fine to medium sized powdery red iron. ACX has internal and external red slip under a plain glaze, giving a dark brown (near black) colour. AAJ has red slip externally only; despite this the internal and external glaze appears a dark brown with abundant fine opaque speckles of black or brown colourant of less than 0.05mm: suggesting the deliberate addition of a colourant to the glaze

#### DISCUSSION:

Slip coated wares are related to the later seventeenth and eighteenth century 'Staffordshire' type slipwares. They are usually thrown hollow wares rather than press moulded flatwares

and the slip tends to form a coating that covers the inside and most of the outside, down to a line somewhere just above the foot to 1/3rd up from the base. The visual appearance and forms are often similar to the broadly contemporary black glazed earthenwares (Midlands Blackware), just made using an iron poor body. Occasionally a less iron rich slip is used for decorative effect (often trailed dots) or features on the vessel (such as horizontal cordons) have the slip wiped from them, resulting in them appearing yellow / pale brown against the dark brown background. With small body sherds it can be difficult to distinguish between the usually 'undecorated' slip coated wares and other types of Staffordshire type thrown slipwares that may have areas of dark slip but are otherwise decorated with trailed or feathered or marbled slip.

ABM is a vessel that is part of a northern tradition of slipwares. At Newcastle (where they are catalogued under 'Red Earthenwares'), Bown and Nolan speculated that such slipwares may be 'examples of "brown ware" produced at Sunderland in the early nineteenth century' (Bown and Nolan 1990, 109). A date between the late eighteenth and twentieth century is appropriate. These slipwares sometimes have decoration of metallic oxides, probably iron or manganese yielding a brown colour, applied with a sponge under the glaze, producing an effect not unlike the sponged creamware vulgarly known as 'Whieldon ware'. It is not impossible that ABM and brown glazed earthenware ACN are related types: ACN is press moulded but appears to have such a coloured glaze.

### **Mottled Ware (STMO).**

A single sherd (ACW) was identified as a mottled ware vessel with a weight of 1.0g

#### **VESSEL FORM AND DECORATION:**

The sherd ACW comes from part of the base of a vessel of unknown form. The thickly pooled internal glaze suggests it was probably a hollow ware. It has a thick internal glaze that has pooled in the base during firing. The fabric is buff.

#### **DISCUSSION:**

From the late seventeenth into the eighteenth century the production of pottery in Britain underwent a series of revolutions. Though some of these innovations were in use earlier (e.g. separate biscuit and glost firings were used by the Tin Glazed Earthenware potters), it was in the late seventeenth to eighteenth centuries that a rapid succession of innovations, including in technology (new kiln technology and multiple firings; the use of the lathe; the use of Plaster of Paris moulds; etc); in the understanding of the chemistry of raw materials and experimentation with ceramic bodies (use of calcined flint and later bone; new metallic oxides for use in underglaze and overglaze decoration; etc); in the use of superior raw materials brought in from some distance away as a result of improved transport links (Devon and Cornwall ball clays for example); in the organisation of the industry (factory production, including the division of labour and waged employees); and in the marketing of the products (so that potters no longer simply met the needs of the consumer but actually created markets for their products); all of which changed the face of pottery manufacture in Britain.

These revolutions saw the introduction of new pottery types, including stonewares, porcelains, and refined earthenwares of various types, including white. The revolutions drove the transition of pottery production in Britain from what was mainly a craft practiced by individual potters and their families or groups of such potters, who may also have farmed or had other interests (for example at Ticknall where, while supplying very large quantities of pottery 'all East England through' as a seventeenth century writer noted, still managed to farm or have other jobs (Spavold and Brown 2005)), into an industrial process often carried out in factories, utilising mass production techniques.

One of the earlier products arising from these revolutions was salt glazed stoneware. Though stoneware had been manufactured in Germany from late medieval times it was not produced in Britain on any significant scale until the late seventeenth century. Commercial production was underway by 1675-1680 at Fulham by John Dwight (Green 1999, 3-4). Stoneware

potteries were soon set up in a number of other centres, including London, Nottingham, Crich in Derbyshire, Staffordshire, and probably Bristol (Oswald, Hildyard and Hughes 1982, 19).

However, while these ceramic revolutions had a major impact on the more traditional methods of producing pottery, the establishment of new industries producing new types of pottery (or the adoption of new practices by existing potteries) did not sweep away the more traditional 'country' style pottery producers overnight. Ticknall, for example, declined slowly over the course of the eighteenth century; inventories suggest that potting was still a lucrative business at the end of the seventeenth century but the wealth of the potters decreased significantly through the eighteenth century, with many Ticknall families choosing to / having to get out of potting as the century progressed (Spavold and Brown 2005).

While by the nineteenth century, when the last Ticknall pottery finally closed, products were mostly coarsewares for the kitchen, dairy and garden, in the late seventeenth and first half of the eighteenth century the traditional country potter did make attempts to compete with some of the new wares made by the more industrialised potters. One such attempt is likely to have been mottled ware.

Mottled ware is sometimes referred to as manganese mottled ware but the mottling may be caused by iron rather than manganese (Barker 2008). Production in Staffordshire is quite well known but was produced at a much wider range of sites, including at Bristol and Ironbridge. It was a relatively common component of the output of the potteries of Derbyshire, Staffordshire and Yorkshire and was often produced alongside other 'vernacular' wares (*sensu* Wiliam 1987) such as slipware and brown and black glazed earthenware. A sample of potteries producing it include the Tetley family at Ticknall, Derbyshire (Budge 2017, 121-3); Silkstone, Yorkshire (Cumberpatch 2006, 182-4); Bate Ain and Barwick in Elmet, Yorkshire (Cumberpatch 2010 table 24); and Sheffield Manor (Beswick 1978).

Mottled ware products are predominantly a range of hollow wares. Some of these were cylindrical mugs, often with two bands of reeding, one at the base and one part way up the body (likely to be a skeumorph of the binding of stave built vessels), with an ear shaped handle. Some of these mugs are identical in form to the products of the brown stoneware industries, and the often pale or mid brown lead glaze with darker streaks and speckles may also sometimes look similar to the glazes of brown salt glazed stoneware. This has led to suggestions that mottled ware was an attempt by the vernacular pottery industries to compete with the stoneware potters (Hildyard 2005, 39-40). Whether direct competition was ever intended, it is undeniable that most mottled ware producers made a range of hollow wares for use at the table. These were accompanied by chamber pots. A few producers made more specialised forms, such as flatwares including dishes and Dutch ovens made at Sheffield Manor (Harlan 2010).

#### DATING:

The start date for mottled ware is generally considered to be in the late seventeenth century. This dating is primarily due to a reference given by Dr Plot in his *Natural History of Staffordshire*, where he describes how the Staffordshire potters produced 'motley ware'. Motley ware has been equated with what we understand as mottled ware. However, mottled ware is not common in archaeological deposits before the eighteenth century (Barker 2008) so there is perhaps some room for doubt regarding the identification of motley ware with our Mottled ware. Mottled ware is particularly popular in the first half of the eighteenth century, appearing in many groups of this period (see Barker 2008 for examples in Staffordshire). It continues to appear in groups of the second half of the eighteenth century though it is less common at this time. Some manufacturers certainly belonged to the first half of the eighteenth century (e.g. Sheffield Manor; the Tetley's at Ticknall (Budge 2017, 121)) but others may have continued or started in the second half of the century (Silkstone; c.1754 and later (Cumberpatch 2006); Barwick in Elmet c.1747 to 1788 (Cumberpatch 2010 table 24)). Based on its occurrence in inn clearance groups it has been suggested that mottled ware may have been considered out of date at this point, but may have been preferred by certain members of society (perhaps those who were older, or of a more traditional bent) (Cessford 2015, 206). In domestic contexts vernacular and formal table wares sometimes appear to be used together and Cumberpatch has speculated that, together with perhaps different rates of take up of formal

table wares, richer families may have consigned vernacular table wares to the servants quarters while less well off families may have continued to use them in private, saving the formal table wares for use for more public entertaining (Cumberpatch 2010, 126)

### **Brown Glazed Earthenware (BERTH):**

Eight (8) sherds from a minimum of seven (7) vessels in Brown Glazed Earthenware were recovered, with a combined weight of 41.5g.

#### **VESSEL FORM AND DECORATION:**

None of the vessels were decorated. A range of forms were present. They included large bowls with internal glaze. Such bowls are sometimes referred to as pancheons, and include ABP and ABK. Smaller vessels with internal and external glaze were hollow forms, possibly jars but most likely paint pots or chamber pots (AAR, ABE). AAS is an unusual wheel thrown form with a very shiny chestnut coloured external glaze. Hints of compression rings suggest it may be from a vessel with a constricted neck, possibly a small standing costrel or bottle. ACN has a knife trimmed exterior and appears to have been press moulded. AAG is internally glazed. It is probably from a bowl, but is relatively thin walled perhaps suggesting it is not a large pancheon.

ABE and AAR were internally and externally glazed and came from hollow vessels, possibly jars or chamber pots. The horizontal striations on the interior of both suggest extensive stirring of an abrasive material, probably sand used to clean out the latter.

#### **FABRICS:**

These wares consist of a range of relatively iron rich coarse and fine wares, usually oxidised and glazed with a lead glaze coloured brown or black by iron, most probably leached from the body or slip rather than deliberately added as a colorant to the glaze mixture (see Barker 1986, 61 - 62). They tend to evolve out of Midland Purple and Cistercian ware around the middle of the seventeenth century in the Staffordshire area (Barker 1999): the fine Cistercian ware cups and other vessels evolving into the fine (Midlands) blackwares and the coarse Midlands Purple ware vessels (cisterns, bowls, jars etc) evolving into the coarse blackware bowls, jars and butter pots. Watkins notes that Brown glazed earthenwares were in widespread use over most of Britain from the early seventeenth century and that most was made at small, local, potteries (Watkins 1987, 115). Some were also produced at larger potting centres, like the village of Ticknall in south Derbyshire. At Ticknall many of the villagers were involved in potting, and production was sufficiently high that a mid seventeenth century writer, Phillip Kinder, noted that the village's products were distributed 'all East England through' (Kinder in Spavold and Brown 2005, 122); probate references to Ticknall pots have shown that the distribution was actually throughout not just the east but the whole of the Midlands in the seventeenth century (Spavold and Brown 2005, 122). The market dominance of the Ticknall potters was gradually lost through the course of the eighteenth century (Spavold and Brown 2005, 85) as other potting centres such as North Staffordshire increasingly adopted more industrialised factory style production methods; adopted new technologies; employed scientific approaches to the development of new products; and developed marketing techniques geared towards creating and expanding markets for their mass produced products during the increasingly consumerist eighteenth century.

The potters of Ticknall tended to use different clays depending on the vessel type being made; large pancheons and butter pots often were made using an unrefined clay that can have streaks of light firing clay and streaks of iron rich clay along with a variety of coarse or very coarse inclusions such as clay pellets and iron ore, though not usually quartz. Sometimes the potters mixed different types of clay. The choice of clay or clay mixture was usually intended to improve the throwing, drying and firing properties of the pots or their performance in their intended, post-market, role. The mixing of clays for such purposes by country potters is attested well into the last century and is discussed e.g. by McGarva (2000, 26). Earlier clays were mixed and pugged by hand: such methods continued into the twentieth century in some of the more remote industries (for example, Verwood in Dorset (Draper and Copland-Griffiths 2002, 83-8); the introduction of mechanical pug mills, first animal driven

then steam driven, produced fabrics which were better mixed and in which the larger inclusions may be broken down.

The bodies used for the coarse vessels often fire to various shades of orange when oxidised. Some industries (including Ticknall) applied a slip with higher iron content than the body clay under the glaze to ensure there was sufficient iron available during firing to darken the glaze and to provide a dark background to make the glaze appear darker.

For finer vessels, intended to be glazed internally and externally (such as chamber pots and cups), a more iron rich clay was usually used, often firing to reds, dark reds and purples; the clay usually appears more refined though in some industries (e.g. Ticknall) sparse large inclusions (often grit sized iron ore and / or iron rich and iron poor clay pellets and occasionally quartz) may be present. Such vessels do not usually have a slip under the glaze as the body is sufficiently iron rich that it can provide a dark enough background and enough iron to leach into the glaze to give the dark appearance that was expected.

Rim forms of the vessels change over time, as do the fabrics. In the seventeenth century the production of cups and other drinking vessels along with handled jars / chamber pots, all with internal and external glaze was a common component of black and brown glazed earthenware production: these wares were produced alongside coarser fabrics deliberately glazed on one surface only and used for butter pots / jugs / jars / bowls etc: from the eighteenth century the wares glazed internally and externally become rare (likely replaced by the vernacular and refined table wares of the period) and the coarse BL and BERTH fabrics, used for coarse vessels and glazed on one side only, predominate. In the coarse fabrics (at least in Derbyshire and areas influenced by Ticknall), rim forms are initially elaborate and derived from the earlier Midlands Purple wares: by the early eighteenth century they have become heavier and simpler. Ticknall (pers obs) may never have adopted the pan rings used for separating bowls in large bungs during firing: Other industries adopted these advances in firing technology that relied upon standardisation of sizes and production of robust, chunky and sturdy rectangular section rims that could support the weight of many other bowls stacked above using pan rings. This technology (use of pan rings) to a great extent dictated the form of late eighteenth century and later bowl rims: these were chunky, rectangular and standardised, being primarily designed to support and distribute the weight of the bung of a potentially large number (and weight) of bowls above, using the pan rings.

#### DATING:

Hollow vessels AAR and ABE are forms and have fabrics that are most commonly seen from the late seventeenth to eighteenth centuries. ABK is quite a well mixed and fine fabric and is probably of eighteenth or nineteenth century date, while the fine fabric of ABP is typical of late eighteenth - early twentieth century vessels.

ACN is not typical of BERTH production (press moulding is not usual) and may probably be more correctly considered to be part of the vernacular tableware tradition represented by 'Staffordshire' type slipware, Mottled ware, etc. The chestnut coloured glaze has darker patches which may be deliberate: it has been noted that 'Whieldon' type glazes (coloured with metallic oxides, usually iron or manganese) on eighteenth and nineteenth century vernacular earthenwares in Yorkshire.

AAS has a nice chestnut coloured glaze. While it could be earlier, the nineteenth century products of a number of Yorkshire potteries have a visually similar glaze. Without direct comparison of the fabrics (not yet undertaken) it is not impossible that AAS may be earlier, but it seems more likely to be related to the late eighteenth and nineteenth century country pottery outputs of Yorkshire.

AAG is problematic: the fabric is dissimilar to the other BERTH sherds and more similar to some of the MEDLOC sherds. It could represent a product made by a post medieval potter using similar raw materials / working in a similar area to the medieval potters who supplied Bainbridge, or it could be that this sherd is perhaps earlier than it is classified as; it may be a brown glazed medieval sherd. This can only be tested by further work yielding more diagnostic fragments (e.g. rims or bases) in this fabric from the site, or the identification of this fabric on previously excavated sites where either chronologically diagnostic fragments or stratigraphic or other independent dating is present.

### **Creamware (CREA):**

Three sherds from three vessels in Creamware had a combined weight of 5.1g.

#### VESSEL FORM AND DECORATION:

AAO is from a cylindrical mug or jug. It has three incised horizontal bands inlaid with dark red / brown slip; appearing very dark brown under the glaze.

ABN is from a dish or plate. It has a low rounded foot ring. Though it is undecorated it does have a small speck of cobalt under the glaze on the internal surface. This might suggest it had painted decoration such as a blue shell edge.

ABO is from a dish. It has a flat base with no foot ring and is worn on the base by use.

#### DISCUSSION:

From the first appearance of Chinese porcelains and tin glazed earthenwares in Europe a goal of European and British potters was to produce white pottery. The desirability of such pottery is linked to the white colour: most critically this can be used as a ground upon which a wide variety of decoration can be executed, either underglaze (initially usually in cobalt blue) or overglaze (coloured enamels, gilding, etc).

Coupled with the drive for white pottery were social changes and developing markets. The popularity and increasing availability of tea and coffee from the first few decades of the eighteenth century and the elaboration of dining from the middle of the same century (Barker 2010, 6), were accompanied by a revolution in the pottery industry, spearheaded by the potters of north Staffordshire from the early eighteenth century (Barker 1999, 226). This revolution included the use of improved raw materials, including mixtures of white firing 'ball' clays (from southern Britain) and calcined flint to produce white bodies, the introduction of the lathe and plaster of Paris moulds, and changes in firing technology. The latter saw an increasing use of a range of kiln furniture and improved firing techniques, including the introduction of separate biscuit and glaze firings (Barker 1998, 318; Barker 1999, 226-9). The ceramic revolution permitted production of new types of pottery, finer and with 'better' decoration, in increasing quantities and, in many cases, at cheap prices which were, by the end of the century, traded on a vast scale from Britain throughout the world.

The various stages in the quest for the production of white pottery in Britain began with the production of Tin Glazed Earthenware by potters from Antwerp. This was initially possibly first in Norwich in the late 1560s, and certainly in London from 1571 (Dawson 2010, 9). A range of potteries producing tin glazed earthenware sprang up in the seventeenth century but the peak of popularity was between 1720-40 (Barker 1999, 226). The manufacture of a white bodied stoneware, first on a small scale by Dwight at Fulham in the 1680s to the end of the century (Green 1999, 125), then on a much larger scale several decades later, from the 1720s, by the potters of North Staffordshire (Barker 2007, 32), was the next. These stonewares were much harder wearing than the soft, easily chipped tin glazed earthenware and better resisted the heat of the water used to make tea and coffee. Their white body was produced using a mixture of Devon ball clays and calcined flint.

Using the same body as white salt glazed stoneware, creamware (or cream coloured earthenware) began to emerge in the 1740s, initially as a base for a range of coloured glazes. While technologically creamware can be considered a development rather than an innovation (Barker 2007, 32), it has rightly been said that 'In terms of the product, and its impact upon consumer behaviour, it was indeed a landmark in the manufacture of ceramics in Britain and its development and marketing were to alter the way in which ceramics were used at all levels of society' (Barker 2007, 31).

Creamware was initially used for drinking ceramics (mainly tea and coffee) but there was an increasing focus on table wares in the second half of the eighteenth century, particularly from the 1770s (Barker 2010, 13). An increasing elaboration of dining, with separate dining rooms and elaborate layout of the dishes on the table amongst the wealthier classes required an increasingly diverse range of serving vessels, from plates and dishes to sauce boats, tureens and so on (Barker 2010, 13). Clever marketing by potters, particularly Josiah Wedgwood, ensured that cream coloured earthenware became an object of desire amongst all levels of

society to fulfil these roles: Wedgwood was appointed potter to Her Majesty Queen Charlotte in 1766, and was referring to creamware as 'Queen's ware' from 1767 (Barker 1991, 20-1, 13), orders from the Prince of Wales followed in 1769 and from King George III and the Queen in 1770, followed by Catherine the Great, Empress of Russia in 1770 and 1774 (Barker 1991, 23-4) and this, amongst other factors, set a trend for the product amongst the middle classes. One writer noted that they had (common) Chinese porcelain for tea sets and creamware for dinner services, 'which, for our rank, there was nothing superior' (Papendieck 1783 in Massey 2007, 25). Even the lower classes, while they did not dine as the upper classes, changed the way they ate, with 'a gradual increase in the use of ceramic table wares at all social levels during the third quarter of the eighteenth century' being demonstrated by archaeological finds (Barker 2010, 13-4), and as indeed was lamented by Josiah Wedgwood in 1778, 'Queen's ware ... is no longer that choice thing it used to be, since every shop, house and cottage is full of it' (Miller and Hunter 2001).

The latter was to some degree a product of the marketing strategy and scale of production: in order to keep older product lines selling prices were constantly reduced, which had a deleterious effect on quality; Josiah Wedgwood noted in 1759 that white salt glazed stoneware 'was the principal article of our manufacture; but this has been made a long time, and the prices were now reduced so low that the potters could not afford to bestow much expense on it, or make it so good in any respect as the ware would otherwise admit of: and with regard to elegance of form, that was an object very little attended to.' (Barker 2007, 38).

The developments of the Staffordshire ceramics industry during the eighteenth century, and particularly creamware in the second half of the century, lead to the unquestioned dominance of the industry, not just over previous leaders of the British ceramics industry such as Ticknall, South Derbyshire (Spavold and Brown 2005), but also of the world. By 1762 the Staffordshire potters could claim 'The Ware of these Potteries is exported in vast Quantities from London, Bristol, Liverpool, Hull, and other Sea Ports, to our several Colonies in America and the West Indies, as well as to almost every Port in Europe' (Barker 2001).

The Staffordshire products, particularly the relatively cheaply produced creamware, not only metaphorically knocked imported Chinese porcelain off the dinner tables of the middle and upper classes (Barker 2007, 32), it had significant impact on other industries. Domestic production of porcelains declined (Miller and Hunter 2001, table 1) and it was explicitly stated in the case of Liverpool that porcelain manufacture was in decline in the 1770s due to competition from Staffordshire (Massey 2007, 25); tin glazed earthenware production experienced a 'rapid and terminal decline' in the final quarter of the eighteenth century (Barker 2001); and pewterers, who had previously supplied the middle classes with table wares and, indeed, the Cornish tin miners who supplied the pewterers, were also significantly affected, leading to riots and disobedience, such as riots of tanners in Cornwall in 1776, when they smashed all the Staffordshire and earthenware pottery they could find in the market at Redruth and proceeded to Falmouth where they intended to burn the Town Hall as it contained a large parcel of Staffordshire wares (Hinton 1776, 220).

While the rise of the Staffordshire industries is unquestionable, Staffordshire type wares were not just made in Staffordshire. A range of Staffordshire type products were produced around the country, many of these industries being established with the assistance of Staffordshire expertise and potters (Barker 2001). Locally, a range of potteries in Yorkshire (Griffin 2012) and on Sunderland and Wearside (Baker 1984, 7-9) may be mentioned.

The cream colour of creamware derives from small quantities of iron impurities in the bodies and in the glaze; by the 1760s Wedgwood had produced an improved Cream Colour which had less iron and was therefore lighter in colour than earlier examples; most of the Staffordshire potteries were producing lighter creamware by the 1770s (Barker 1991, 23).

A wide variety of decorative techniques were employed on creamwares. These ranged from decoration imparted by the mould used to make the piece, applied decorative sprigs, engine turned fluting and other lathe applied decoration, to the applications of metallic oxides under the glaze to produce coloured patterns, the use of coloured glaze, underglaze painting, underglaze printing, overglaze enamelling, overglaze printing and gilding, to name but a few

of the great many varieties. While the bulk of creamwares in museum collections are decorated, it has been stressed that the bulk of archaeological examples from both production sites and consumer sites are undecorated (Barker 2007, 38).

The demise of creamware, when it came, was not due to new wares appearing to supplant it, but more down to a preference on the part of the consumer for decorated wares which, in the last decades of the eighteenth and first of the nineteenth century, were more likely to be made in pearlware than creamware (Miller and Hunter 2001). It has been noted that creamware is rare in archaeological assemblages after c.1820 and that the later wares that are present are usually mostly toilet and baking wares (Barker 2007, 40)

#### DATING:

The three creamware sherds are all pale in colour, indicating they are late in the chronological span of creamware (last decades of eighteenth to nineteenth century). A late date is also supported by the decoration and forms present: the inlaid banded slip of AAO is a technique that was particularly popular in the last decades of the eighteenth century and the first decades of the nineteenth on cream and pearlwares. The foot ring and cobalt speck in ABN, perhaps suggesting it was part of a blue painted vessel, perhaps shell edged, is also late. ABO has only the pale colour to go on: while foot rings become more common in the later eighteenth century and later, certain dish and plate forms remained without a foot ring well into the nineteenth century.

#### **Pearlware (PEARL):**

Two sherds from two vessels with a combined weight of 1.3g were in Pearlware.

#### VESSEL FORMS AND DECORATION:

The two vessels are likely to be for serving liquids, more specifically probably tea. They include the rim of a teabowl (ACP) and a body sherd from a thin walled open vessel, most likely a saucer (ABL). The teabowl ACP has underglaze blue hand painted Chinoiserie decoration internally and externally while the ?saucer has internal underglaze red sponged decoration.

#### DISCUSSION AND DATING:

Pearlwares were produced by adding a tiny amount of cobalt to the glaze of what was otherwise a creamware. The cobalt counteracted the warm yellowish tint caused by the iron impurities in the body, imparting a slight blue tint to the glaze. The resulting pottery, while still not perfectly white, was at least much closer in character to the cold blue-white of Chinese porcelain than creamware had been.

This was exploited from the earliest appearance of pearlware, which was often decorated in underglaze blue painted or printed decoration of Chinese influenced designs. Indeed, in the eighteenth century many of the producers of this ware referred to it by the name 'China glaze'. (Miller and Hunter 2001).

Indeed, pearlware, or China glaze or Pearl White as it was known at the time, has been noted to be 'a copy of Chinese porcelain via the filter of English Porcelain' (Miller and Hunter 2001); Josiah Wedgwood wrote that 'your idea of creamcolour [creamware] having the merit of an original, and the pearl white [pearlware] being considered as an imitation of some of the blue and white fabriques, either earthenware or porcelain is perfectly right' (Wedgwood 1779 in Miller and Hunter 2001). It is this characteristic of pearlware: an imitator rather than a competitor, that limited its status and, unlike creamware, it was not able to compete successfully against Chinese or English porcelains in the homes of the most wealthy. It was, however, cheaper than the porcelains and was available at all social levels. Some of the simplest and most common pearlware forms, particularly dishes with moulded shell edges decorated with a splash of blue, green or occasionally other underglaze colours on the edges have been shown to be the most affordable decorated pottery available to the consumer.

The teabowl rim has typical hand painted chinoiserie decoration. On the interior there is a border consisting of a double lined lattice with horizontal single line strikes (probably most like Roberts 2006 fig 45); this border is most commonly used on the hand painted Pagoda and Fence, Boulder and Fence, and Long Eliza patterns (Roberts 2006, 16-7). There is insufficient of the exterior design on the sherd to determine the form of the decoration on this surface, but given the internal border and the vessel type it is most likely to be Boulder and Fence or Pagoda and Fence.

This type of pattern on pearlwares was most common from c.1775 to c.1810.

It seems to suggest that the owner of the teabowl was aspiring to the latest fashionable styles of living and probably entertaining, but was not of great means, able to obtain copies of Chinese porcelain rather than the imported original or the domestically made equivalent.

The flatware has an underglaze sponged decoration. While the use of sponges to apply pigment to British pottery is most common on nineteenth and early twentieth century whitewares, the technique has a much longer history. Sponges are particularly well suited to the depiction of foliage, as they were used in otherwise hand painted designs on British tin glazed earthenware from the seventeenth century onwards, as well as for more general areas of dappled colour (e.g. Dawson 2010, 58, 60, 286). Sponges were also notably used for applying the tortoiseshell decoration to early creamwares (e.g. Barker 1991, 194-5). On pearlware sponged decoration is not particularly common in Britain; it was widely used on the ware in designs such as 'peafowl', which show a hand painted bird surrounded by sponged foliage, but these designs were mostly made by British factories for export. When used on pearlwares it was often used to represent foliage in otherwise hand painted designs. There were also designs consisting simply of borders of sponged colour (MACL 2002). The thinness of the present example suggests it was most likely an item associated with liquid consumption: it is probably a saucer for a teabowl or coffee cup (if obtained as part of a set the teabowls and coffee cups would share the same saucers). It dates to the first half of the nineteenth century and like the teabowl appears to indicate that the original users were aspiring to polite living, and / or sought to be seen to be doing so.

While it is not possible to know at present where the pottery originated (if it was spread as manure, what was the origin of this manure?), it suggests that those originating the waste had aspirations towards refined living.

### **Whiteware (WHITE):**

Two sherds from two vessels, with a combined weight of 1.7g were classified as Whiteware.

#### **VESSEL FORMS AND DECORATION:**

ADA has internal and external underglaze blue sponged decoration. It is probably from a bowl. ACU is a small flake from a vessel of uncertain form.

#### **DISCUSSION AND DATING:**

Whitewares are the 'ultimate' development in white earthenwares, arrived at when potters were finally able to exclude all unwanted iron, that imparts a yellowish tint to the end product (e.g. Creamware), from their pottery to produce a product that is more or less pure white in visual appearance. Bodies are generally made from a mixture of china clay, Devon ball clays and calcined flints, as indeed were creamware and pearlware. It began to be produced in the nineteenth century, from c.1820 (Barker 2008) and continues to the present day. The whiteware category covers a range of fabrics including those marketed as ironstone china / stone china / ironstone etc.

It can sometimes be difficult to distinguish between paler creamwares and whitewares particularly in small sherds; ACU has a slight tint to its colour so might be a late creamware or a whiteware: it is considered preferable in such uncertain cases to catalogue the sherd as the later type to avoid it being mistakenly considered to be earlier than it may actually be.

ADA has sponged blue decoration. This type of decoration was particularly popular in the nineteenth century, in the second half of the century being the cheapest colour decorated pottery available (Barker 2008). The colour was applied to biscuit ware using a sponge, either as areas of colour or in simple repeating patterns made using sponges cut into particular shapes. This decoration could quickly and easily be applied by small children working in the pottery industry. Much 'sponged ware' was made for export by Staffordshire and other potteries, but it is also found on British consumer sites

### **Nineteenth Century Buff Bodied Earthenware (NCBW):**

A single sherd with a weight of 0.4g was recorded as Nineteenth Century Buff Bodied Earthenware.

#### **VESSEL FORM AND DECORATION:**

ABB is a small sherd and there is little indication of form other than that it comes from a hollow ware vessel possibly of globular form. The majority of both the inner and outer surfaces have flaked off meaning there are no traces of decoration.

#### **DISCUSSION:**

NCBW consists of a refined buff coloured body with few inclusions visible to the eye (but commonly a range of fine yellow clay pellets, rounded red iron and fine quartz). It is internally and externally glazed and usually decorated with a range of motifs based on banded slip (terminology after Barker 2008). These slip bands, usually coloured brown, blue or white, are common decorative motifs. They may occur simply as a series of narrow bands, or may frame a central (or off centre) band(s) of slip that is / are much wider and may often have 'mocha' decoration on it / them.

Forms in NCBW are most commonly a range of bowls, often carinated, rounded / hemispherical or globular, usually having foot rings or pedestal feet; jugs; mugs; and chamber pots. In describing the output of Sharpe's pottery in Swadlincote, Derbyshire, Jewitt noted that production included 'plain and pressed jugs and mugs; bowls of various kinds; ewers and basins; teapots, cups and jars of various kinds; beef, jelly, bread, stew, and other pans; and every description of household vessels are made' (Jewitt 1878, 157).

The banded slip was applied once the vessel was mounted on a horizontal lathe with the decorator blowing slip from a bottle, producing fine and consistent horizontal lines of slip on the finished vessel (Dickens 1852, 120). A wider band of slip was sometimes included in the design; this is often white and may have 'mocha' pattern on it. The latter was produced by trailing or painting a line or lines of an acidic mixture onto the alkali slip ground; the chemical reaction caused the colour to spread rapidly in a dendritic manner (Godden 1974, 222). The resultant patterns, dependant on how the acidic mixture was applied, tended to look like trees when the mixture was applied in more or less vertical lines, seaweed when diagonal or curved lines were applied and grass and low vegetation if horizontal application at the bottom of the slip band was used. These were initially in dark colours, black and brown particularly, on a lighter slip background often coloured white, grey or orange, but in the nineteenth century blue mocha on white slip became particularly popular with the yellow ware manufacturers.

The epithet 'Mocha' is a contemporary term that was applied due to the visual similarity of the decoration to the vein patterns seen in the mineral moss agate (Hildyard 2005, 174): this stone was known as Mocha stone as the main source at the time was Arabia, trade being conducted through the port of Mocha / Al Mukha on the Red Sea in present day Yemen (Carpentier and Rickard 2001) (the port was also famed for its coffee and leather exports (Lexico 2019)). Mocha decoration was first used on cream- and pearlwares in the late eighteenth century: the earliest reference to mocha decoration is on Lakin and Poole invoices from 1792-6 (Carpentier and Rickard 2001) and the earliest known dated mocha decorated piece is a mug with 'M Clark / 1799' painted under the glaze on the base (Godden 1974, 223).

An indication of the value and social status of nineteenth century Mocha ware is provided by Charles Dickens, who wrote that 'the simplest process of ornamenting this " biscuit " (as it is

called when baked) [is] with brown circles and blue trees—converting it in to the common crockery-ware that is exported to Africa, and used in cottages at home.' (Dickens 1852, 120). He went on to describe the method by which the banded slip and mocha decoration was produced: 'For (says the Plate) I am well persuaded that you bear in mind how those particular jugs and mugs were once more set upon a lathe and put in motion; and how a man blew the brown colour (having a strong natural affinity with the material in that condition) on them from a blow-pipe as they twirled; and how his daughter, with a common brush, dropped blotches of blue upon them in the right places; and how, tilting the blotches upside down, she made them run into rude images of trees, and there an end.' (Dickens 1852, 120).

Mocha and banded slip decoration was applied to a variety of cream, pearl and whitewares from the late eighteenth century into the nineteenth, but during the nineteenth century it was also applied to yellow bodied earthenwares. The latter were known by a variety of contemporary names. The simplest of these was the descriptive 'yellow ware'. This term was, however, used by writers for a variety of wares with a yellow appearance, including the earlier Midlands Yellow ware and bowls in red with an internal white slip (WAS IT? REF XXXX) and it is thus not always possible to be certain which ware, as a modern pot specialist would understand it, is being referred to. In the case of Farey's 'yellow ware', noted to be in production in south Derbyshire during his survey of the county undertaken from 1807 (Farey 1811, v), the distribution of the 'yellow ware' potteries (stated to be at Ashby de la Zouch and Ashby on the Wolds, Church Gresley and Swadlincote [sic] (Farey 1811, 449-450)), makes it likely that these were producing what we understand as NCBW: the Leicestershire and South Derbyshire coalfield where the potteries were located was famed later in the nineteenth century as a 'district' which specialised in production of this ware type (Jewitt 1878, 156). That Farey's terminology refers to body colour and not general visual appearance seems to be suggested by the fact that Farey noted the production of 'yellow ware' in south Derbyshire but not at Ticknall, which was reported to be producing only red wares at this time (Farey 1811, 450). Ticknall was a prodigious producer of Midlands Yellow Wares in the seventeenth century these would not have been in production by Farey's time, but the red bodied earthenwares with a white internal slip that were made there in the eighteenth century (at the Tetley kiln in Heath End, for example (Budge 2017, 123)) could still have been. There is (almost) no evidence that NCBW was produced in Ticknall: biscuit (i.e. unglazed) NCBW sherds are sometimes found in the village and a single NCBW kiln prop was found in a manuring spread in the village (Budge 2017b, 134), but this material could easily represent seconds or production waste brought in as hardcore or for other reasons need not indicate production in Ticknall itself.

A rather more specific term was used by Jewitt, who called the ware "Derbyshire Ironstone Cane (or Yellow) Ware" (Jewitt 1878, 156).

While the potteries of South Derbyshire were famed for the production of NCBW (Jewitt 1878, 156), it was also produced elsewhere, including Yorkshire (Gallo 1985).

#### DATING:

American workers have suggested that the ware we understand as NCBW originated in Scotland or Yorkshire in the late eighteenth century and subsequently spread to south Derbyshire and Wales (Gallo 1985). While it has been noted that basic factual errors limit the reliance that can be placed on Gallo's scholarship (Rickard 2011), Gallo's assertions regarding the origins of the NCBW industry, at least as far as they relate to the south Derbyshire industries, may not be far off the mark. NCBW appears to have been in production on some scale (at least three or four manufacturers) by the first decade of the nineteenth century (Farey 1811, 449-50). Goodwin reinforces this, noting that the Leicestershire / South Derbyshire coalfield pottery industries producing NCBW were new establishments of the early nineteenth century (Goodwin and Cramp 2012, 146).

In his substantial work on the Ceramic Art of Great Britain, first published in 1878, Jewitt noted that the area around Swadlincote was known for the production of "the "Derbyshire Ironstone Cane (or Yellow) Ware" (a name by which this ware has for upwards of a century been known, and which is the speciality of the district)' (Jewitt 1878, 156). NCBW is, however,

not commonly (or at all) noted in late eighteenth century ceramic groups in England and is also rare in earlier nineteenth century groups.

It is much more common in deposits of the middle and later nineteenth century, being one of the cheaper decorated and widely available ceramic wares at this period, as indicated by Charles Dickens (above: Dickens 1852, 120). It was present, in the form of blue mocha decorated chamber pots and a mug, for example, on an American shipwreck of a vessel carrying a cargo of British ceramics lost in around 1854 (Gerth et al 2011, Gerth 2011, 27-9) and forms, a significant proportion of the ceramic assemblage in waste deposited in groups of the last quarter of the nineteenth century at labourers cottages in Kent (Licence 2015, 21 - 23); it also occurs around this time at a higher social level but in more limited quantities in waste deposited by a Norfolk rector's household in c.1895 (Licence 2015 19, 77).

The ware continued in production into the twentieth century with the last producer, T G Green of Church Gresley, Derbyshire, ceasing production of the type at the outset of World War II (Gerth 2011, 29).

#### NOMENCLATURE:

The use of contemporary names may be confusing in the case of this ware as the largely descriptive names used by contemporary writers were applied at different periods to different wares. The 'yellow ware' name, used by contemporary writers and sometimes by modern ceramic specialists (e.g. Gerth 2011, 27) may be confused with the earlier yellow wares mainly of the seventeenth century, and the yellow glazed creamwares of the period c.1780-1835 known as 'canary yellow' or 'yellow ware' (Baker 1984, 21). The contemporary term 'caneware' has also been used by ceramic specialists (e.g. Cumberpatch nd, np): caneware was also a contemporary term for a buff bodied unglazed (or internally glazed) stoneware produced by potters including William Greatbatch (Barker 1991, 269-270), Josiah Wedgwood, and other Staffordshire potters from the 1770s or 80s, through to the 1820s (Hildyard 2005, 137, 222-3). The name Nineteenth Century Buff Bodied Earthenware and code NCBW (Lincolnshire CTS) are therefore preferred to avoid potential confusion with other ware types.

#### **Porcelain (PORC):**

A single sherd, ACZ, with a weight of 0.5g, was identified as a porcelain.

#### VESSEL FORM AND DECORATION:

The sherd is part of a vessel with carination, possibly part of a carinated tea cup such as the London shape. It has an external underglaze blue transfer print of something that may be smoke or a cloud. The transfer print uses extensive stipple on the inside of the cloud of smoke.

#### DISCUSSION:

Various attempts were made to produce porcelain in Europe with continental potters beginning to have some success from the late seventeenth century in France (Savage 1960, 74) and Germany (Richards 1999, 24). British potters experimented with a variety of different recipes throughout the eighteenth century, before largely settling on a mix using a high proportion of calcined bone (around 50%) to produce a product that became known as Bone China. This ware was first developed in the late eighteenth century and had become the norm for British potters in the nineteenth (Barker 2008). Though translucent, it is not actually a true porcelain.

Sherd ACZ is probably a bone china. The carinated form and the relatively good quality transfer print with stipple place it in the nineteenth century or later; a twentieth century date is not impossible but form and decoration suggest it is probably earlier.

### **Miscellaneous (MISC) (including German stoneware):**

Two sherds, AAE and ACK, from two vessels with a combined weight of 9.3g could not be positively identified. However, after this report had been finalised the likely identity of ACK as a German stoneware mineral water bottle was realised. This was too late for the identification to be included elsewhere in the report with the exception of the note included here.

#### **VESSEL FORM AND DECORATION:**

AAE is from a wheel thrown vessel that was thin walled; the sherd is concave, suggesting it possibly comes from the neck of a jug or perhaps jar.

ACK is from a thick chunky wheel thrown vessel. It appears to be from just above the base of a cylindrical mineral water bottle.

#### **FABRICS:**

AAE is an unglazed oxidised (orange) sherd with a very mixed fabric containing common iron poor clay streaks (firing yellow) in the fabric, along with moderate amounts of iron rich clay streaks (firing red). The quartz, iron poor clay pellets and iron are similar in nature, shape, size, and sorting, to TVW B but there are other inclusions, such as soft rounded brown heterogeneous inclusions up to 1.5mm containing quartz and other unidentified minerals, which are not.

ACK has a coarse grey stoneware fabric with abraded external brown salt glaze.

#### **DISCUSSION:**

AAE is similar to TVW B but the odd inclusions indicate it is not TVW. It is perhaps most likely related to the MEDLOC fabrics B, E and F, which have some similarities to the Tees Valley wares. While it is possibly made from somewhat similar clay sources to these wares it is not, however, clear that this sherd is medieval. There is the possibility that it represents a poorly mixed post medieval fabric. The absence of diagnostic parts (e.g. rims) or glaze means that, without further evidence, at present attempting to assign this sherd to somewhere within the range thirteenth to nineteenth century would be hazardous. It is perhaps most likely that it belongs in the medieval to earlier post medieval period.

The fabric and, to a lesser degree, the thickly thrown form of ACK initially caused uncertainty about its nature: though it is a grey stoneware with an external brown salt glaze the fabric is much coarser than the main German stoneware exports commonly found in Britain. The form however fits precisely into the lower part of the typical late eighteenth to nineteenth century mineral water bottles. These were produced in the Westerwald region of Germany as strong and sturdy containers for the retailing of Seltzers, or naturally carbonated mineral waters. These waters were exported from Germany in vast quantities in the eighteenth and nineteenth centuries. Bottle forms changed over time. ACK appears to be from a cylindrical bottle with slightly convex sides. This type of bottle was current from the late eighteenth to approximately the middle of the nineteenth century, when straight sided cylindrical bottles became dominant.

The find spot of this vessel, in the NE part of the site, is probably not significant. Given the likely dating it probably arrived through the same mechanisms that brought the rest of the late eighteenth - nineteenth century vessels in as 'manure': the abraded nature of the glaze and small size of the sherd also suggest this was the case. It is unfortunate that the source of this waste is unknown as the overall impression it gives is interesting (assuming it is waste from a household or households in Bainbridge, rather than being brought in by rail from a distant town): not only were those who generated the waste aspiring to 'civilised' and polite ways of living, but they were also drinking imported German mineral water (probably more for medicinal purposes than anything else though).

## Evidence of use:

The use to which a ceramic vessel was put during its lifetime may leave a multitude of physical traces on the vessel. The main traces that may be detectable by eye include 'additive traces' on the surface of vessels, such as soot, lime scale and added clay deposits, and 'subtractive traces' where use has physically changed the vessel, such as abrasion, attrition of vessel surfaces and spalling. Such traces may help to elucidate the way the vessels were used. For example, various patterns of sooting to the exterior and interior of a vessel may not simply indicate that it was used to heat its contents, but may also reveal the type of fuel used, whether the vessel was placed in the fire or above it, on a trivet or inside another vessel, to name but a few examples (Moorhouse 1983, 182-5). Internal lime scale deposits may indicate that a vessel was used for boiling water or for storing urine (McCarthy and Brooks 1988, 116). Abrasion to the underside of the base may indicate a relatively long life for the vessel and the location and nature of such wear may also indicate how it may have been used (Perry 2011). Attrition of the interior surfaces may indicate the vessel regularly contained fermenting substances (Perry 2011, 11-15). Such traces may only affect certain areas or may only be present on one side of a vessel however, with a result that where incomplete vessels are concerned it may be difficult to detect traces of use and, particularly, to interpret them reliably.

In total 15 vessels, or 27% of the assemblage, had traces of alteration that are likely to have occurred post firing and prior to deposition, i.e., during use. The nature and location of these traces are detailed in Table 08.

The traces of use were fairly evenly spread throughout the periods, with 100% of the single Saxo-Norman vessel, 30.77% of the 26 medieval vessels and 27.27% of the 22 modern vessels all showing traces that may be related to use.

The use evidence visible in the assemblage fell into two categories. Sooting was the only trace of use that could be detected by eye amongst the Saxo-Norman and medieval assemblage. In most cases it is likely that this sooting derives from their use for heating the contents of the vessel by placing it in, against or over a heat source / fire. In instances where the vessel was represented by body or base sherds, the sooting occurred on the exterior of the vessels. Only in the case of Tees Valley ware rim AAL and MEDLOC rim or handle AAP did sooting also occur on the inside of the vessel. This may suggest that AAL, a Tees Valley form with internal concavity that seems likely to be a lid seating, was placed in or against a fire without a lid, or the lid did not fit well and soot was still able to penetrate the interior. It is, however, unclear whether AAL and / or AAP were burnt following breakage or during use.

Where forms could be determined, the medieval vessels with sooting were jars. Small fragments of bases and body sherds can be difficult to assign to a form with confidence, but those with sooting were most likely to be jars or possibly jugs rather than bowls. Four of the seven Northern Gritty ware vessels showed evidence of sooting, as did the only ?Tees Valley A ware, one of the nine Tees Valley B vessels (this vessel being the only definite jar amongst what are mostly jugs in this fabric) and two of the eight un-sourced Medieval local wares. All the vessels with sooting are unglazed.

For the medieval period it can be said that traces of sooting in the assemblage are predominantly associated with:

- unglazed vessels;
- vessels with gritty fabrics;
- jars.

Vessel:	Ware:	Vessel type:	Type of evidence:	Location:	Details:	Suggested origin:
AAA	NG	jar or jug	Sooting,	ext and possibly over breaks; thickest on upper ext walls with thinner deposits on base and lower ext walls	Sooting thickest on ext walls from c.16mm above base	Heating contents
			Spalling	small flakes from ext lower wall at basal angle	Perhaps heating related?	?Heating contents
AAC	NG	?jar	?Sooting	traces to ext base	Very faint traces; well preserved sherd so soot probably not significantly lost post deposition	Heating contents
AAK	NG	?jar	Sooting	ext wall	Traces only	Heating contents
AAL	TVW	jar - handled	Sooting	int and ext rim	Traces of thick soot to ext of vessel, thinner sooting to int.	Heating contents and / or possible burning post breakage
AAR	BERTH	hollow - jar or chamber / paint pot	Abrasion (scratches)	internal base and walls	concentric horizontal scratching	Stirring abrasive contents; possibly cleaning out with sand
			?Sooting	ext base and walls	Apparently even coverage of black substance except to outer edge of foot; not certainly soot	Heating contents, burning or during firing?
AAZ	MEDLOC (buff sandy)	jug jar or bowl	Sooting	ext base	extensive darkening but adhering soot largely abraded away	Heating contents
ABA	NG	?jar	Sooting	ext wall	once stopped at broadly horizontal line on body and therefore did not reach all the way up the side	Heating contents
ABG	SNX	jar / pipkin	Sooting	ext base and ext walls	Thick sooting	Heating contents
ABO	CREA	Plate / dish	Abrasion (wear)	ext base around edge	Wear from use with the vessel sitting on and moving across a flat surface	Using and agitating vessel on a flat surface
ABE	BERTH	jar, possibly chamber / paint pot	Abrasion (scratches)	Internal wall	Horizontal scratches	Stirring contents, possibly cleaning out with sand
ABK	BERTH	large bowl	Abrasion	base int; ?base ext	Internal scratches concentric around edge and more irregular further in. Ext base probably worn (if so in conjunction with the stirring) but uncertain.	Probably stirring or cleaning, mixing type motion going around and across
AAP	MEDLOC	?jug	?Sooting	int and ext surfaces	Blackening to external surfaces penetrating in to the margins; ?if this is use or just accidental / deliberate burning	heating contents or accidental / deliberate burning, possibly on discard
ABP	BERTH	large bowl	Sooting	ext base and wall	thin black coating which penetrates into ext margin; unclear if sooting or post firing treatment (eg pitch)	?heating contents or post firing treatment
			Abrasion	edge of underside of base	The abrasion cuts through the sooting. Also a few multidirectional scratches on the internal glaze but could be post depositional	dragging across abrasive flat surface or stirring etc while placed on a flat surface
ACF	?TVA	jar / jug	sooting	exterior base and ext wall	patchy on base; all thin; possibly some soot penetrating cracks from surface	heating contents
ABN	CREA		Abrasion	underside of base on high point of footing	Abrasion to the part of the footing in contact with the table or other surface on which the vessel rested in use	Use over period of time on flat surface

Table 08 - location and nature of use evidence and modification in the assemblage.

These factors are inter-related: jugs are frequently glazed while jars are frequently not; gritty fabrics are (probably) mainly used for jars while the sandy fabrics are predominantly used for jugs. Cumberpatch has noted that it is 'most unusual' for gritty wares to be devoid of traces of sooting (Cumberpatch and Roberts 1998-9, 147) and has also suggested that, at least in South Yorkshire, potters were consciously choosing to make jars from gritty fabrics and jugs in finer fabrics (Cumberpatch 1997, 145). The pattern of use evidence in the medieval component of the Bainbridge assemblage therefore fits within an expected pattern for the region. It seems to indicate that the occupants of the site were heating substances in jars, with a preference for the jars to be made in gritty fabrics. In the absence of any evidence for industrial processes it is probable that the substances being heated were food, and that the activity represented was cooking. A lack of readily identifiable bowls appears to rule out activities such as dairying (Moorhouse 1987, 171-3). None of the late medieval / early post medieval assemblage has evidence of sooting, and it is probable that the cooking role of the gritty wares was taken over by metal cooking vessels as they became more widely available: cast tripod footed cooking pots may have appeared in the second half of the twelfth century (Cherry 1987, 146) and documents suggest that metal cooking vessels were available relatively low down the social scale, with the parish clergy in Worcestershire expected to pass down at least one brass pot or cauldron (more if available) to their successor around 1219 (Woolgar 2016, 18-9). At the Priory of St Gregory in Canterbury it was suggested that a lack of ceramic 'cooking pots' after about 1225 suggested that cooking "activity was largely confined to a kitchen area where metal vessels were probably used" (Cotter 2001, 253); at Sandal Castle (West Yorkshire) ceramic vessels were commonly used for heating their contents in the twelfth and thirteenth centuries but 'few pots with carbon deposits were found in later phases, which appears to reflect the growing use of ... bronze vessels, which dominated manorial kitchens and even lower class households by the fourteenth century' (Moorhouse 1983, 185)

The glazed Tees Valley type and unsourced medieval local jugs for serving liquid may have been accompanied by metal cooking wares in the kitchen in the later thirteenth century and onwards, with the occasional vessel (such as Tees Valley B handled jar AAL) perhaps having a special use, though inquisitions indicate that the use of pottery for cooking and heating water did not completely die out with the widespread availability of metal alternatives (e.g. Woolgar 2016, 30-1).

The sooting patterns on the medieval material are varied, but as the sherds are small it is impossible to be certain of the over all patterns of sooting. Moorhouse noted (1983, 183) that a vessel that was placed at the edge of the fire and used only once, or that was placed in the fire the same way around each time (e.g. it had a handle on one side, or an obsessive compulsive user who always put the blackened side towards the fire) on multiple occasions, will have sooting on one side. Assessing the proportions of sooted to unsooted vessels where only small pieces of the circumference of each pot is present is therefore unlikely to give accurate results: the sherds of unglazed gritty wares with no sooting, in particular, could be from a pot used to heat its contents but were from the side that was not towards the fire so acquired no soot deposits.

Additionally, the sherds have varying degrees of surface abrasion. Those such as Saxo-Norman base ABG have well preserved thick soot deposits, Northern Gritty base AAA has patchy traces of thick soot but other areas that are just blackened, from which the thicker soot has probably been abraded. ABA has a blackened surface and a few small specks of thicker soot deposit. Unsourced local medieval ware jug or jar AAP on the other hand just has blackened surfaces from which all traces of soot deposits have been removed, if any were there originally. There is some question, therefore, over whether those sherds with just blackened surfaces with no trace of soot were sooted in use or perhaps burnt (accidentally or deliberately) after breakage.

This said, there were some interesting patterns that were noted. Only Saxo-Norman sherd ABG had thick soot deposits on its base. Base spall of Northern Gritty ware vessel AAC is in good condition and does not seem to have suffered significant abrasion, so the general lack of soot on its small area of blackening is unlikely to be post depositional. Similarly, possible Tees Valley A base ACF has patchy sooting on the base, as does Northern Gritty vessel

AAA. Both of these vessels have more comprehensive sooting to their walls than bases, with thick traces of soot appearing to begin around 16mm above the basal angle on AAA. AAA also had soot over the breaks suggesting it may have cracked during use.

Possible traces of sooting were also seen in the modern assemblage, though this was only present on two of the vessels and its origin is in question. Bowl ABP and jar / chamber pot AAR both have a relatively thick black deposit on their external surfaces. The blackening also penetrates a short distance into the external margin of the sherds. However, it does not have the appearance of the thicker medieval soot deposits. It is therefore possible that this is not sooting from use in a fire. The deposits look somewhat akin to tar or pitch, though scratching the surface does not produce a petrochemical scent. It is possible that rather than soot, the deposit may be some kind of sealant or other substance applied to the exterior of the vessel either by the potter or by the user. Whether soot or other substance, in the case of ABP the black deposit occurred before the vessel was used extensively, as the abrasion under the base cuts through the black deposit on the surface. If the deposit is sooting, then this suggests a change of use, with the vessel initially used with heat, perhaps for separation of cream from milk (e.g. Moorhouse 1987, 171-3), then spending the remainder, and perhaps the majority, of its life employed in mixing substances.

The most common alteration occurring due to use on the modern vessels in the assemblage was abrasion. In the case of four vessels the abrasion was on the underside of the base. This was the case with brown glazed earthenware bowls ABK and ABP and with creamware dishes or platters ABN and ABO. The abrasion on all these vessels is typical of contact with a flat surface that is itself abrasive or which has abrasive material on it. In the case of the creamwares this may simply represent the attrition of a long period of use, being moved around the table, stacked, etc. In the case of the brown glazed earthenware bowls it may similarly represent a long period of use, but could alternatively represent short energetic use, being dragged across the floors of farm buildings and paved yards in dairy work, or sitting on a surface with the contents being stirred, causing small movements of the vessel and producing abrasion.

Evidence of stirring formed the other type of abrasion detectable amongst the modern vessels. This was represented in fairly extreme form in brown glazed earthenware jars or chamber / paint pots AAR and ABE. They both have an extensive range of horizontal scratches in their internal glaze that are particularly prevalent on the high points of the internal throwing rings. This type of scratching comes from stirring (probably quite vigorously!) an abrasive material with a circular motion in the vessel. The most likely origin of such abrasion is from cleaning out the contents of chamber pots; sand was often used for this purpose (J Young pers comm).

A different type of stirring can be inferred from the scratches on the interior of brown glazed earthenware bowl ABP. The scratching is less intense than in the presumed chamber pots. Additionally, it seems to have been done with a circular motion around the edge of the base but then more irregularly across the middle. This type of wear would most likely result from stirring with the intent to mix substances in the vessel.

## **Palaeodermatoglyphic analysis:**

Palaeodermatoglyphic analysis, as the name indicates, concerns the study of ancient finger prints. Finger prints are sometimes preserved on pottery, particularly in places like the inside of the handle attachments. The fingers and palms of the hands have papillary ridges (finger prints). These are fully formed by the seventh month of natal development (Kamp et al 1999, 309). As the individual grows no new ridges are created, so the width of the papillary ridges increases as the individual grows. While factors such as sex and ethnicity have an impact on the width of the ridges, 'the greatest variability in ridge breadth is due to age', with experimental work demonstrating a high correlation between age and ridge breadth (Kamp et al 1999, 309-10). Once maturity is reached and the body stops growing, no further increases occur.

Consequently, if finger or palm prints, or parts thereof, are present on ceramic artefacts, providing the degree of shrinkage during drying and firing can be accounted for, it should be possible to determine whether the prints were left by a child or an adult. A methodology to do just this, based on experimental work, was proposed by Kamp et al (1999). This method produces a margin of error for the prediction of an individual's age, at 95% confidence, of 4.5 years. This has been suggested to be sufficient to 'easily allow researchers to suggest that some artefacts were probably produced by adults and others by children' (Kamp et al 1999, 312). The methodology and formula has subsequently been refined (e.g Floris 2012, Blaževičius 2019).

Two of the sherds from Bainbridge preserve parts of finger prints. Tees Valley ware jug ACA has two small finger presses, one of which includes a clear finger print, on the inside of the vessel near the handle attachment. These, from the size and the fact that they had missed the centre of the handle, were subjectively considered by the writer as likely to be a child's prior to analysis. The writer has speculated that the application of handles and decoration in some pottery industries was by children. This is likely to be the case in the mid/late twelfth century industry at Skegby, Nottinghamshire, and is suggested by a number of factors, one of which is that, even allowing for significant shrinkage, the necks of the jugs are far too small for even a small modern adult to fit their hand down to press the handle in place from the inside (Budge in prep).

The other sherd analysed was Northern Gritty ware sherd ACO. This has no finger prints per se, but does have wipe marks, where the papillary ridges of the potter's fingers left grooves in the wet clay as the fingers were wiped across it. As these were left by the potter who made the vessel, it would be anticipated that they were probably adult.

#### METHODOLOGY:

The ridges were measured using digital callipers in the methodology described by Kamp et al (1999, 311). Distance between a group of ridges was also measured using a measuring graticule in a binocular microscope.

To account for the shrinkage of the clay during drying and firing, an adjustment factor of 1.081 (Floris 2012, 116) was applied to the calculated median ridge breadth figures.

The approximate age of the individuals was calculated by using the revised formula of Kamp et al (Blaževičius 2019, 6).

#### CONCLUSIONS:

Northern Gritty ware vessel ACO was, as expected, produced by an adult.

The finger prints in Tees Valley ware jug ACA, were, however, left by an individual with an estimated age of about 7.5 years. This should not be taken as a precise figure, as the rate of shrinkage in drying and firing of the Tees Valley clays is not known, and may vary from the ideal figure quoted in Floris (2012, 116). However, it is enough to indicate that the individual who applied the handle was a child. The purpose of pressing the fingers into the inside of the pot was to try to strengthen the join between body and handle. In the case of ACA it can be seen that the body and handle were too dry when attached and did not bond at all. The only thing that held the handle on was the separate fillet of clay applied around the join on the outside of the vessel. Had the finger presses been in the centre of the handle they would have pushed to body of the pot against the handle and helped them to bond. It seems somewhat more likely that a younger child would have less coordination and perhaps less understanding of what was required than an older child, and would thus be more likely to misjudge where the handle was on the outside of the pot in relation to where their hand was on the inside of the pot, with the finger presses consequently missing the handle and failing to make an effective join.

It is difficult to draw sound conclusions from a single example, but it may well be that whole families were involved in producing Tees Valley wares, as has been hypothesised for the mid / late twelfth century pottery industry at Skegby, Nottinghamshire (Budge in prep). The adult potter or potters may have thrown the vessels, with tasks such as attachment of handles, and perhaps the less visible tasks such as preparation of clay, undertaken by children. Alternatively, the child could have been an apprentice, learning the craft, although it has been

noted from ethnographic studies in eastern Europe that children were not usually apprenticed until 12-13 years of age (Blaževičius 2019, 9).

The results from just these two sherds from Bainbridge suggest that, providing the technique is applied critically, palaeodermatoglyphic analysis appears to have the potential to add useful information about the production processes and organisational structure of the pottery industries of Northern England.

## **Discussion of Dating:**

The Bainbridge assemblage is a surface collection, meaning there is no internal evidence, such as stratigraphy or association, to assist in dating the pottery. Additionally, while the majority of the earlier material appears to be constrained to one part of the site, this does not mean it is associated, contemporary, or even that the sherds arrived at their individual find spots through similar processes of use, disposal and post depositional movement. As such, the only way that the pottery can be dated is by its occurrence on other sites or, failing this, by considerations of manufacture, technology, decoration and form.

The dearth of published local sites makes this task difficult; it is further complicated by the vague and non-specific nature of most of the published fabric descriptions. Many references to Newcastle are found in this text but the validity of such distant parallels may also be questioned. For example, even in relatively close proximity to York, Vince and Young found that the rural sites in the vicinity of Wetherby on the A1(m), around 20km west of York, had a very different ceramic sequence and dating to that found in York (Vince and Young 2007, 267). As such, any parallels drawn from distant towns such as Newcastle or York may not be applicable to the situation in the Dales, or only be applicable in the broadest sense e.g. in relation to widespread northern traditions of potting. As such it is important to assess the validity of any conclusions based on distant parallels by checking them against what is known of the local situation.

Given the lack of published excavations of medieval sites in the immediate locality of Bainbridge, we are left with Barnard Castle (County Durham) and the Hospital of St Giles near Brompton Bridge (Richmondshire) as the only published large, stratified assemblages from which to draw comparison. Both sites are located to the east, and NE, respectively, of Bainbridge. The occurrence of the Tees Valley wares and the history of ownership of Bainbridge, tied as it is to Richmond and Middleham to the NE and east, suggest that Bainbridge was probably looking towards the area in which these sites are located for many of its supplies. If so, it seems reasonable to conclude that St Giles Hospital particularly (it is just 4km SE of Richmond) and Barnard Castle perhaps to a lesser extent may provide a reasonable impression of the ceramic sequence and its dating. However, the chronologies of the published material from these two sites are limited. While Saxo-Norman wares were present at Barnard Castle, the bulk of the pottery dates from the founding of the castle, in c.1093-4 (Austin 2007, 182), and the later pottery, of post c.1630 date, was not considered (Freeman Bown and Austin 2007, 409). Similarly, St Giles is a post conquest foundation. These sites may not, therefore, demonstrate the full range of wares in use in the area from the immediate pre-conquest period to the post medieval period. Due to their locations they also are unlikely to have received much, if any, pottery from Cumbria to the west, which Bainbridge potentially could have.

Also, as detailed above, the identification of pottery types and dating at St Giles is unreliable. Even had the identification of the pottery been accurate, the dating of the types appears to have been primarily based upon parallels with other, non-local, sites, rather than in reference to the stratigraphy. As a result, the St Giles report is unable to contribute usefully to a discussion of the chronology of the Bainbridge ceramics. This leaves only Barnard Castle. The large assemblage recovered from this site was subjected to detailed and thoughtful analysis, with factors such as taphonomy and residuality considered in depth. There was also a conscious choice to date the pottery by the archaeology, rather than the other way around (Freeman Bown and Austin 2007, 354). This makes the report on the Barnard Castle

ceramics a valuable contribution to the study of local ceramics and a key point from which their chronology can be assessed.

With the above points in mind, various aspects of the dating of the Bainbridge ceramics are discussed below, in broad chronological order.

#### SAXO-NORMAN JAR ABG:

Assigning the jar base sherd ABG to the Saxo-Norman period is potentially contentious. This dating has been proposed primarily due to the similarity of the sherd to the wheel thrown Saxo-Norman industries of the Danelaw, and particularly its superficial visual similarity to Stamford ware (and the northern version produced at Pontefract). However, there is much less variation in base form than there is in rim form of post-Roman pottery. The absence of rim forms in the same fabric as ABG from Bainbridge means it is not possible to determine whether the pot really was produced by a potter working in the Stamford / Pontefract tradition, but employing coarser clays, or whether the similarity is entirely fortuitous. The small size of the jar may reinforce the proposed dating; pottery of the Late Saxon and early medieval (i.e. Norman) periods is often well made and thin walled. By the thirteenth century vessels tend to become larger and are often thicker walled. There is also an increasing availability of copper alloy vessels, particularly those intended for cooking, as the period progresses. This is particularly so from the fourteenth century onwards: the Worcester Court Rolls for the period 1354-1440 for example indicate that 90% of peasant holdings included a brass pot and pan which lead Lewis et al to conclude that metalwork was in general use 'at this lowly social level' at the time (Lewis, Brownsword and Pitt 1987, 88-9). Increased availability of metal cooking vessels has a significant effect on the quantities of ceramic jars used for cooking found on sites; at Barnard Castle it was noted that 'from Phase VB onwards jugs are the commonest form; cooking pots are rare or residual' (Freeman, Bown and Austin 2007, 492). These factors all support an early date for ABG.

It is the implied Late Saxon component of the dating, based on the Stamford parallels, that is the potentially contentious part. Northern Britain is often considered to be more or less aceramic before the Norman conquest (McCarthy and Brooks 1988, 69). The statement that northern Britain is usually considered to be aceramic is repeated in one form or another, usually somewhat apologetically, in those reports where a writer is reporting on pottery finds of pre-Norman conquest date. These include vessels with sixth century parallels from an Anglian cemetery at Catterick (Vyner 2003, 34-5), or a possible Saxo-Norman vessel from near Sedbergh (Howard-Davies 1999, 150).

However, when definitely pre-conquest sites have been excavated locally they have indeed been found to be aceramic, including a building at Horton in Ribblesdale, radiocarbon dated 7th to 8th century. This structure was, however, interpreted as a shieling associated with transhumance stock rearing (Johnson 2012, 4) and may therefore not be a place where pottery was taken: wood and other perishable, and more easily transported, materials perhaps being preferred. Three buildings were excavated at Austwick, approximately 26km SW of Bainbridge, and produced radiocarbon dates between the 8th and early eleventh century. An early post conquest lime kiln was also part of the complex. None of these structures produced any pottery though there was a range of other material culture such as ironwork and animal bone (Johnson (ed) 2015, vii). This appears to suggest that the lack of pottery finds reflects a genuine lack of pottery utilisation by those who used the buildings.

It would perhaps be better to suggest that pre-conquest pottery is scarce rather than absent; it may only be present on certain types of site and is often sourced from outside the region: there is virtually no evidence for the production of pre-conquest pottery in the North (Vince and Mould 2007, 89). One of the few exceptions may be Thorne, near Leeds. When evidence for pottery production was first found at Thorne it was published as thirteenth century based on typology (Cumberpatch and Roberts 1999, 147); with the discovery of Thorne products stratified on consumer sites the dating was refined to the eleventh - thirteenth century (Cumberpatch 2008, 17). Petrological, chemical and typological analysis has recently demonstrated, however, that Thorne is the source of Anglo-Scandinavian York Ware (Vince and Young 2007, 275).

Much of the pre-conquest pottery found in the region is imported, such as in York where most of the pottery in the run up to the Norman Conquest was made in Lincolnshire (Vince and Mould 2007, 89). The same is true on the extensively excavated rural site of Wharram Percy, where a number of Lincolnshire and also possibly East Anglian kilns supplied the settlement (Slowikowski 2000, 67-72). Further north, a pre-conquest start date was originally proposed for Durham type ware (Carver 1979, 40). However, scientific analysis and a reconsideration of the site on which it was found indicated that it is more likely (early) post conquest, and probably made in Newcastle upon Tyne rather than Durham itself (Vince and Mould 2007, 88-9).

ABG is not, however, recognisable as a regional Saxo-Norman import.

Other workers have tentatively suggested the possibility of more local Saxo-Norman types, such as at Barnard Castle (Freeman, Bown and Austin 2007, 408), at Crosedale near Sedbergh, c.27km west of Bainbridge (Howard-Davies 1999, 150) and at Yockenthwaite, c.11km south of Bainbridge (Newman 2001, 112). At Crosedale the lower parts of a vessel were found that 'does not resemble other medieval fabrics in the locality'. The generic resemblance to the Saxo-Norman wares of further south, including Torksey ware and Chester type ware was noted, though it was stated that the vessel was clearly not directly linked to any of these industries (Howard-Davies 1999, 150).

ABG could thus come from an unknown, relatively local (though the inclusions are dissimilar to the inclusions in any of the medieval pottery from Bainbridge, so probably not from the same geological areas as the rest of the pottery), Saxo-Norman industry influenced by the more southern Late Saxon wheel thrown industries such as Stamford. It has been noted that 'Saxo-Norman types are never present on purely twelfth to early thirteenth century sites in north-east England, but are found on sites with specific historical Saxo-Norman connections, such as Durham City' (Freeman Bown and Austin 2007, 490). While the precise meaning of this statement is opaque (does it intend to stress the Saxon part of the Saxo-Norman dating?). It may be worth bearing in mind that Moorhouse has highlighted the possibility of continuity of settlement around the Roman fort at Bainbridge (Moorhouse 2003, 303). As such, Bainbridge might qualify to some extent as a site with 'historical Saxo-Norman connections' as there was, at least, a community in the immediate vicinity of the Site who could occasionally have utilised, or been visited by others who utilised and brought with them, ceramic vessels. It may therefore be that it is not impossible ABG could belong to the 'Saxon' part of the Saxo-Norman date range it has been given.

Alternatively, the apparent similarity of ABG to Saxo-Norman wares further south could be a case of convergent evolution. Post-conquest traditions of potting further north, in Newcastle and in Scotland, saw a range of white firing jars with convex bases produced, the fabrics of some of which sound similar in description to ABG. At Newgate Street, Newcastle (Franklin 2006), two vessels have very similar profiles to Stamford ware vessels: compare Franklin 2006 fig 7g with Kilmurry form 1 (straight sided bowls) rims, especially rim 17 and 18 from Stamford (Kilmurry 1980 fig 44). Franklin 2006 fig 7g is also thin walled like Stamford ware. Franklin fig 7h also matches Kilmurry form 2 (jars) rim 54 etc (Kilmurry 1980). The Newcastle vessels are considered to be thirteenth - fourteenth century.

At Berwick upon Tweed, Type 2 vessels from Oil Mill Lane were stated to be of very high quality potting, unglazed, and included small jars with convex bases, similar to ABG (Moorhouse 1982, 113, fig 16, 21, fig 17, 52, fig 23, 181, 182). The fabric description states that type 2 is 'a fine grained lumpy fabric which is oxidised to varying shades from dull white to buff' (Moorhouse 1982, 113). This terse description could equally well apply to ABG as not; the lumpy texture, small size of vessel, thin walls and firing colours sound like ABG but the 'fine grained' part does not. Type 2 appears to have been present at Oil Mill Lane from the start of the stratigraphy, in the twelfth century (Moorhouse 1982, table 2).

It is unclear how a white firing jar in the St Giles hospital assemblage fits into the discussion. This small vessel is no 3 in the St Giles report (Maxwell 1995, 169). It has a knife trimmed convex base and everted, externally bevelled, lid seated rim, neither of which are correctly illustrated in Maxwell fig 30. In the figure the base is shown virtually flat (despite the text

stating that the base is 'sagging') and the concave lid seating is omitted from the drawing. The reconstruction of this vessel with a flat base has probably led to it being illustrated in a much wider and squatter form than visual examination suggests it actually had.

The rim form of this vessel (as seen in the hand, not as illustrated) is strongly reminiscent of Lincolnshire Saxo-Norman types, such as Stamford ware, in which Kilmurry's rims 7 and 10 belonging to form 3 jars (Kilmurry 1980 fig 49) are a close match. This, along with the white firing fabric, thin walls, small vessel size and convex base, combine to produce a vessel that visually appears extremely similar in form to Saxo-Norman vessels from the East Midlands. The St Giles vessel is classed as a 'gritty ware' and is claimed to be from Period 4 deposits (mid thirteenth - late fourteenth century); Maxwell considers 'gritty ware' is probably residual by this time (Maxwell 1995, 169). This vessel, if residual, could indicate that wheel thrown Saxo-Norman type vessels in East Midlands traditions were present in the area near Bainbridge. Alternatively, if it is contemporary with its deposit (which the multiple joining and non joining sherds of this vessel might suggest), it may be that thin walled vessels in typical East Midlands Saxo-Norman forms were being produced much later in north Yorkshire and further north in a possible case of convergent evolution.

An alternative possibility is that ABG is the base of a pipkin. These handled jars are usually of a small size and generally of high and late medieval date.

Taking all of the above into consideration, the date of ABG must remain uncertain until either more chronologically diagnostic elements (such as rims or decorated sherds) in this fabric are found at Bainbridge, or the proposed future work by the present writer locates parallels for the fabric in assemblages in the wider area that are dated by stratigraphic context or other means. It appears entirely appropriate at this point to echo the conclusions Howard-Davies reached regarding a Saxo-Norman vessel from Crosedale: 'such wares span a period from the tenth to the twelfth centuries and it has been suggested that [the Saxo-Norman vessel under consideration] might be dated to the twelfth century; the lack of rim or other diagnostic sherds precludes any further certainty. (Howard-Davies 1999, 150).

#### MEDIEVAL:

The fabrics classified here as Northern Gritty ware seem most likely to equate to family group C, Oxidised Gritty Wares at Barnard Castle. They were most common in Phases IV and VA, late twelfth to early thirteenth century at Barnard Castle (Freeman, Bown and Austin 2007, 409). The fact that most of the sherds come from vessels with external sooting, suggesting use in heating their contents, perhaps for cooking, may support such a date. Evidence from a range of sites suggests that ceramics were giving way to metal vessels for cooking particularly from the thirteenth and fourteenth centuries (e.g. Moorhouse 1983, 185; Cotter 2001, 253).

A variety of wares were classified as general un-sourced local medieval ware (MEDLOC).

MEDLOC fabrics F and C are both from quite thin walled jugs in iron rich fine to medium sandy fabrics; both have external suspension glazes which are likely to be no earlier than thirteenth century; fabric F also has copper in the glaze, something usually only seen from the thirteenth century or late twelfth century at the earliest. At Barnard Castle it was noted that there was a general chronological trend of gritty wares superseded by sandy wares in the early or mid thirteenth century. The sandy wares were predominantly oxidised early on, though reduced versions appeared at the same time (Freeman, Bown and Austin 2007, 409). This was followed by a trend towards the fine reduced wares of the fifteenth century and later. There are no comparanda for these fabrics amongst the published types from St Giles; iron rich sandy wares were absent unless they have been subsumed into the Tees Valley type, which was apparently the only medieval pottery from St Giles made from iron rich clays with a sandy texture (Maxwell 1995).

MEDLOC fabric B is a pale yellow firing coarse sandy ware. The sherd is unglazed but probably from the base of a vessel. Probable traces of external sooting suggest the vessel was used for heating, but do not help to narrow down the type of vessel, as jugs, jars and bowls were all used for heating substances during the medieval period. It could be related to

the buff white wares as defined at Newcastle castle ditch. They were the dominant type in phases 3 (late thirteenth - early fourteenth century) and 4 (mid fourteenth century) (Ellison 1981, 105). Locally, this would fit into the range of sandy fabrics dominant from the early to mid thirteenth century at Barnard Castle.

Fabric F is similar in colour to the Tees Valley type wares, though the inclusions are finer. The fabric occurs as part of a rim or handle. It is difficult to tell the difference as handles were often wheel thrown; the potter threw a cylinder of clay then cut it into segments to use as handles (John Hudson pers com); consequently wheel thrown handles may have 'rims' (particularly in the case of strap handles) and, in small fragments, it may be difficult to distinguish between vessel rims and handle 'rims'. Unfortunately there is insufficient of this rim to judge the orientation and indeed whether it was a rim or a handle. The rounding of the 'upper' edge precludes the possibility that it was one of the typical Tees Valley type products as these tend to have a distinct bevel, usually external but sometimes internal. If it was a handle it would be a strap handle of a type much more common further south. Such handles are less common in north Yorkshire, where the rod handles of Scarborough and Tees Valley ware predominate until the fat, gently ridged, strap handles of Humber ware and the reduced green glazed wares take over. There are no published examples of similar handles with sharp arrises at St Giles and they do not occur at Barnard Castle until type 64 (Freeman Bown and Austin 2007 fig 10.3.41:1151 and fig 10.3.42:1160).

At Barnard Castle, wares that seem to equate to the Reduced Green Glazed tradition are family group F, later reduced wares. These belong to Phase VIII, late fifteenth to early sixteenth century (Freeman, Bown and Austin 2007, 409). St Giles seems to display a slightly different picture. The fabric description (a reduced, generally fine, smooth hard grey fabric with few or no visible inclusions and external olive-green to light brown glaze (Maxwell 1995, 176)) appears to suggest that the equivalent to Newcastle RG4 and RG5 is being referred to, at St Giles reduced green glazed wares appeared in Period 4 (late thirteenth - early fourteenth), peaked in 6 (fifteenth century) and were considered to be 'possibly residual' by Period 7 (late fifteenth - mid seventeenth century) (Maxwell 1995, 176). While this seems to be an unusually early end date for such wares in the locality, particularly given the Healey kiln (below), it is perhaps accounted for by the site: the hospital declined in the fourteenth and fifteenth century and was gone by the later fifteenth century (Costley 1995, 115).

## Sources:

With such a small and unstratified assemblage to work with it may be unwise to proceed too far into drawing conclusions on the possible sources and mechanisms of supply to the site. Additional work yielding larger quantities of ceramics might demonstrate that the assemblage under consideration is atypical and could show, for example, that the predominance of Tees Valley ware in the assemblage is actually an aberration, and that the type forms an insignificant proportion of any future assemblage. However, due to a dearth of published material relating to the ceramics of the Dales, it is considered worthwhile to offer some preliminary considerations about the possible sources of the present assemblage.

It may be useful to first examine some of the broader mechanisms that may govern supply of ceramics to consumer sites.

Even on major urban sites, such as London, it has been noted that there is 'a cut-off point of about 35 miles (56km) for the overland transport of pottery, beyond which one might expect stray occurrences but not regular supply' (Vince and Young 2007, 275): there are however occasional exceptions to this rule, such as the supply of pottery to the City of York from Torksey in Lincolnshire, around 80km distant, in the late Saxon period (Perry 2016, 96-8). Pottery does seem to have been routinely transported rather further during late Saxon times: following the Norman conquest, on rural sites belonging to the higher levels of society, such as manors, the distance is less than the 35 miles of London. On moated manor sites in Yorkshire it was noted that 'the farthest point from which pottery is believed to have been drawn was 21 miles' (34km) (LePatourel 1973, 99). Moving further down the social scale, while manorial sites may have been drawing their supplies (and therefore their pottery) from their (sometimes widely scattered) demesnes (see below), the average occupant of a rural

village may have been reliant on their local markets for supplies, and consequently the distance over which the pottery used on rural peasant sites was drawn may have been less.

It has been suggested that 'a journey of six or seven miles to market was considered the acceptable norm in the medieval period' (Laughton 2007, 413). In considering the nearest markets, at nine and twelve miles distant from the settlement of Meols, on the north Wirral coast, the same writer suggested that weekly trips to either of these markets might be 'something of an undertaking'. The nearest major town to Meols, Chester, is nineteen miles away: 'too far away for weekly marketing, but within distance for non-routine purchases' (Laughton 2007, 413). Laughton then describes the documentary evidence for residents of Meols making trips to Chester, particularly to attend the county court (Laughton 2007, 413). Though not specifically stated by Laughton it is possible that such longer distance journeys, made for purposes other than shopping, could incidentally have involved the purchase of routine (e.g. a jug of beer for the way home) or special supplies (such as a pot of honey or cheese from the port or from the hinterlands of the town in the opposite direction to the village where the visitor dwells) and could therefore account for the presence of pottery from somewhat more distant sources than might be anticipated in the immediately local markets.

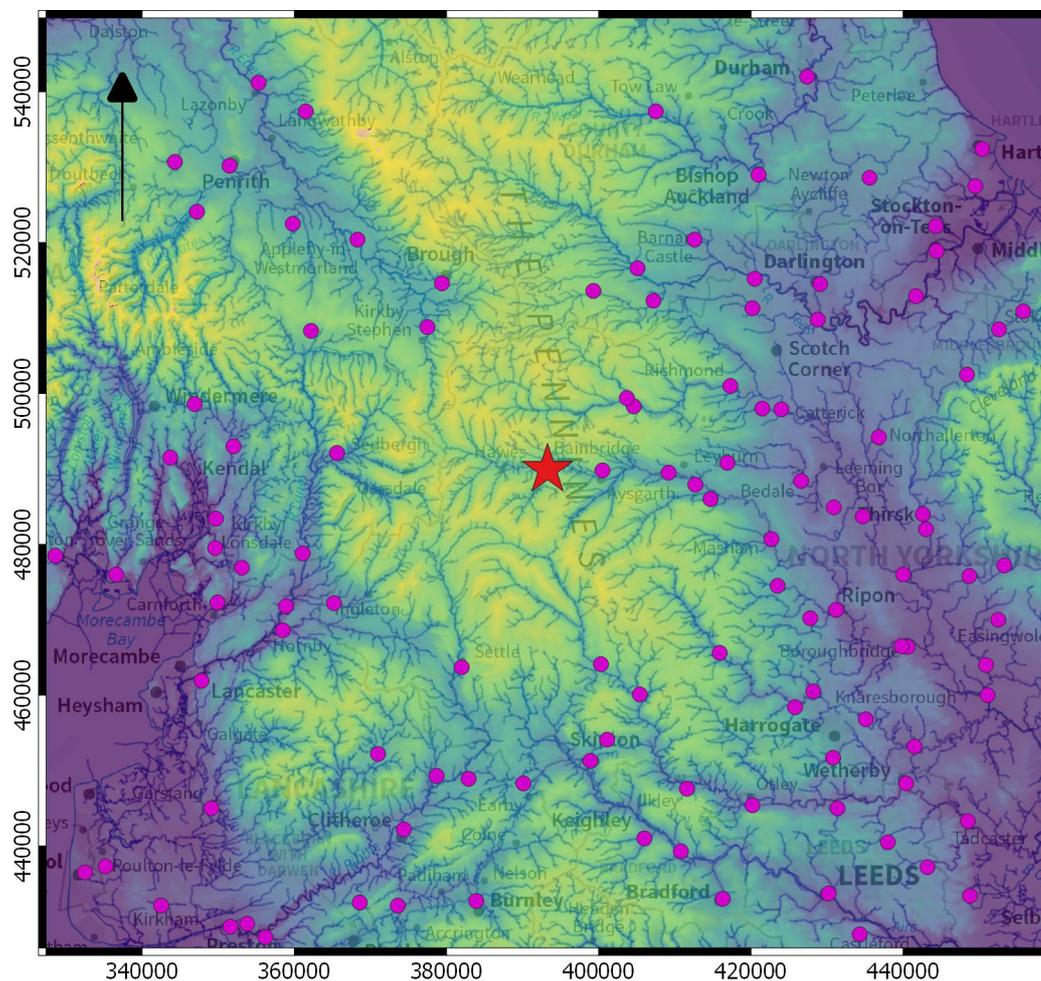


Figure 09 - Map showing the overall distribution of post-Norman conquest markets to c.1600 in the vicinity of Bainbridge (red star). Note concentrations of markets in the Vales and along the river valleys, and dearth of markets in the high ground. Elevations colour coded from sea level (purple) to higher ground (yellow).

The known medieval markets in the vicinity of Bainbridge are shown in Figure 09 and the distance, as the crow flies, and direction of the nearest of these from the settlement are displayed in Table 10. The data on which this information is based comes from Letters 2013. It should be noted that not all markets had charters; for example those belonging to the king often went without a charter, thus the map and table may not provide an accurate or full picture of the markets available in the local area at a given time. Not all the markets were in operation at the same time. Additionally, the range of goods available at the markets would

likely be different depending on the location of the market; more isolated rural markets probably had a more restricted range of products than those situated on well frequented routes or in important towns. Many of the charters also granted annual fairs. These would have a wider range of products available than weekly markets and would draw traders and craftspeople from a much wider area.

Location	Direction	Distance in km	Distance in miles	Region
Carperby	E	7.232846	4.49449	Wensleydale
Grinton	NE	14.11049	8.76826	Swaledale
Reeth	NE	14.11439	8.770682	Swaledale
Wensley	E	15.94149	9.90604	Wensleydale
Middleham	E	19.54086	12.14269	Wensleydale
East Witton	ESE	21.79125	13.54108	
Constable Burton	E	23.65746	14.70075	Vale of Mowbray
Bowes	NNE	24.46743	15.20406	Teesdale
Kirkby Stephen	NW	24.62864	15.30424	?
Brignall	NE	26.39096	16.39934	Teesdale?
Richmond	ENE	26.48193	16.45587	Swaledale
Grassington	SSE	26.75258	16.62405	Wharfedale
Sedbergh	W	27.77243	17.25779	Garsdale
(Market) Brough	NNW	28.34304	17.61237	?
Settle	SSW	28.53486	17.73156	Ribblesdale
Barnard Castle	NE	29.21784	18.15596	Teesdale
Brough	ENE	29.38245	18.25825	By Brompton on Swale
Masham	ESE	30.84813	19.16903	Vale of Mowbray
Catterick	ENE	31.76877	19.74111	Vale of Mowbray
Appletreewick	ESE	32.18866	20.00204	Wharfedale
Burton in Lonsdale	SW	33.20156	20.63145	Lonsdale
Pateley Bridge	SE	33.22031	20.6431	Nidderdale
Bedale	E	33.37877	20.74157	Vale of Mowbray

Table 10 - documented markets up to and including 20 miles around the Bainbridge site. Data on markets from Letters 2013.

It can be seen from the data (Figure 09) that the majority of market charters granted in the region are concentrated on the lowlands around the Pennines and in the larger river valleys. Those markets in the Dales are at their mouths.

If the resident of Bainbridge was unwilling or unable to travel more than the six or seven miles suggested by Laughton as the reasonable distance for a weekly market, they had only one documented choice, the market at Carperby. This was granted a charter in 1305. The day of the market was not given, but it was to be held at the manor (Letters 2010). Carperby became part of the fee of the constables of Richmond and the manor was held by a series of families, eventually passing to the Scopes of Bolton in 1421 (Page 1914). The establishment of this market was perhaps an attempt to cash in on the residents living in the Dales, who otherwise had a long trip to market (and perhaps, if acquiring goods or disposing of surplus outside of the formal and regulated exchange systems of markets, might have been less inclined to declare the full details of every transaction or give the lord his full and 'fair' share of due on all their property.

All the other markets are more distant. To avoid repetition, all dates for charters and details of markets and fairs in the following paragraphs should be read as being derived from Letters 2010, unless otherwise noted.

The earliest documented markets are all relatively distant, perhaps suggesting that people in the Dales were largely self sufficient, or were prepared to travel some distance to the markets to obtain non-local products or materials and dispose of any excess produce, or that the procurement of goods and materials of non-local origin and the disposal of excess produce was by means other than formal trade at markets, perhaps using existing pre-Norman

conquest exchange mechanisms (the latter would require the assumption that the harrying of the north did not wipe the slate clean). A combination of these factors may also be possible (e.g. largely self sufficient, subsistence, communities occasionally making trips to the main markets / fairs for essentials from outside the local exchange network).

The early documented markets include, at the mouth of Swaledale to the NE, Richmond, which was a borough by 1136-45. Further NE again was Barnard Castle, a borough by 1175. In Westmorland to the NW, Brough was known as Market Brough or Brough under Stainmore and was a borough by 1196.

In the thirteenth century more markets were established, with Wensley, at the mouth of the Dale, the closest. By the fourteenth century there was greater choice, with the previously mentioned market at Carperby established, and a range of other convenient choices available. In the fifteenth century further markets were founded, to the extent that in 1440 'it was alleged that markets and fairs set up at several places in Yorkshire were detrimental to the burgesses at Richmond' These markets included Middleham, Masham and Bedale (Letters 2010), suggesting that Richmond was, or at least considered itself to be, the premier market of the region and that the area from which it drew its trade was impacted by these other markets (all more than six or seven miles distant) in the Vale of Mowbray.

In terms of the topography, it is probable that the easiest markets to access would have been those to the east, along the Ure down Wensleydale and beyond. These include the markets at Wensley (Thursday market granted 1202, Wednesday market granted 1318) and Middleham (granted 1389), and further east still, East Witton (granted 1218 to Brito balistarius, later granted in 1307 to the abbot and convent of Jervaux Abbey).

While it is not necessarily safe to assume that the modern roads follow the line of earlier routes, it is notable that most of the markets in the wider area around Bainbridge, not just those at the end of Wensleydale, have more or less direct (modern) routes over the Pennines to them. If this was also the case in the medieval period then it is possible that markets in the wider area, not just down Dale to the east, may also have been accessible to the occupants of Bainbridge.

For example, Sedbergh (granted 1251, possibly failed as re-established 1526) is almost directly west of Bainbridge and could probably be accessed by travelling up Wensleydale to Garsdale Head and then progressing down Garsdale to Sedbergh. The market and fairs at Kendal (a borough by 1222-46) could be reached by travelling further west of Sedburgh.

Burton in Lonsdale (prescriptive, recorded 1293) is more or less at the end of the Roman road known as the Cam High Road. Access to Swaledale from Wensleydale was by several routes, with the most direct being the road from Askrigg, over Askrigg common, to Crackpot. The later traveller could then easily access the markets at Reeth (prescriptive, recorded by 1513) or Grinton (recorded by 1539) in Swaledale. They could also travel east down Swaledale to Richmond (a borough by 1136-45) (though Richmond could also be reached by a route of about the same distance from the mouth of Wensleydale), or head up Arkengarthdale and across the moors to the NE, eventually arriving in the area of the Rivers Greta and Tees where the markets of Brignall (granted 1265), Bowes (granted 1245 to Peter of Savoy, re granted to the earls of Richmond in 1310 and 1344) and the borough of Barnard Castle (borough by 1175) were located.

A slightly less direct route could have provided access to the Westmorland markets of Kirkby Stephen (a borough at unspecified date; charter granted 1353) and Brough (Market Brough or Brough under Stainmore) (a borough by 1196).

The majority of these markets are likely to have been too far away for regular weekly attendance, but could well have been within a reasonable distance for attendance at the fairs held at each. It is therefore possible that ceramic products from all of these areas (Vale of Mowbray, Westmorland, County Durham, Lancashire) could occur at Bainbridge.

This, however, assumes that supply of ceramics was more or less via markets (which may well not have been the main factor, see below) and that the decision to attend any given market or fair was based upon proximity and ease of access, rather than less tangible factors such as cultural links and social pressure. In terms of the latter, for example, Austin has noted that the boroughs of Richmond and Barnard Castle were rivals (Austin 2007), and it is therefore to be wondered whether there might not have been factors at play that discouraged the tenants associated with one or other estate from attending the markets belonging to a rival borough. If they existed, such pressures might have been deliberate and consciously applied, or been in the form of unspoken social pressures controlling which markets or fairs were acceptable to visit and which were not.

In the Dales it is also possible that the persistent cultural links could go back before the presence of the Normans (e.g. Austin 2007, Fleming 1998, 24) and thus not respect later establishments such as the honour of Richmond. Whether this is likely to be the case probably depends on quite how much damage the Harrying of the North actually did in the mid to late eleventh century. If this essentially wiped the slate clean, as scholars such as Palmer have argued (Palmer 2010b), then there seems little chance of continuity. If it was less severe, then continuity may be possible. However, there does not seem to be sufficient information at present to speculate further on such links.

In simple terms of ease of access, it would seem that the markets and fairs to the east would be those most likely to have seen most regular use. This also seems likely from the land ownership, with the lords of Middleham and Jervaux Abbey, both located to the east, significant land holders in Wensleydale. Richmond was likely to have been the major town in the area, as suggested by the complaints of the burgesses in 1440 regarding rival markets (Letters 2010).

In sum then, it is likely that, if pottery provision to the site was governed by no more than proximity and ease of access, then the majority of pottery at Bainbridge is likely to be sourced from the areas to the east and NE of the site. This certainly is the case in the only instance of pottery from a known source, the Reduced Green Glazed ware from the Healey kiln (Figure 25, no. 6). This production site is located only a few miles from Middleham at the mouth of Wensleydale. It is probably also the case with the Tees Valley type B wares. Though the production site or sites of these wares is currently unknown, the TVW B fabrics at Bainbridge are microscopically indistinguishable from TVW B found at St Giles, Brompton Bridge, near Richmond. This appears to suggest that the same source was supplying both St Giles and Bainbridge with these wares. However, few of the other wares isolated at Bainbridge appear also to have been present at Brompton Bridge. This may suggest, assuming that much of the pottery at Brompton Bridge was obtained in the local market at Richmond, that most of the pottery at Bainbridge was not sourced from the market at Richmond, in which case the TVW vessels would represent an anomaly.

The presence of pottery from parts of Westmorland, Lancashire and County Durham appears to be a possibility purely on basis of market proximity and availability, and further work should test this possibility. Comparison between Bainbridge NGR fabrics 1 - 3 and the products of Docker Moor (Figure 25 no. 4) may be useful: Docker Moor products are stated to be 'brown / pink to buff / white' in colour and to belong to the Northern Gritty tradition (Gibbons 1986 45-6). Docker Moor is in close proximity to, and would likely have been supplying, both Kirkby Lonsdale (3km away) and Burton in Lonsdale (5.8km away) markets, assuming the markets were in existence at the time Docker Moor was producing pottery.

Particularly interesting will be the planned comparison of Bainbridge pottery with that from the rival borough of Barnard Castle (as part of the proposed future work on site), which may indicate whether the social pressures associated with the rivalries between two boroughs percolated down into daily life and had any impact on the supply of pottery from rival areas: If it did there should be few examples of pottery from the same source on the two sites.

While examination of the local markets can highlight where pottery might have come from if it was traded as a commodity in one form or another, how pottery arrived on a given consumer site is also critical. Le Patourel and particularly Moorhouse have studied medieval pottery using documentary sources. Based upon their work it has been noted how infrequently purchases of pottery are recorded in the accounts of larger households, where even the smallest expenditure is recorded. Where purchases of pottery are recorded it is often either of unusual vessels, for a particular purpose (special purchases), or in unusually large quantities, such as purchases of large quantities of jugs for royal visits to particular sites (e.g. the purchase of jugs for Clarendon palace from the nearby kilns of Laverstock recorded by LePatourel). In these cases, Austin has highlighted the fact that the purchases were direct from the potter, rather than from middlemen or markets where potters happened to have a stall and happened to be selling these particular wares (Austin 2007).

Indeed, Austin rather scorns the idea of pottery as a commodity in itself, suggesting that the evidence may suggest that the majority of pottery purchased by consumers was invisible, much as we are not usually conscious of purchasing the can when we buy a can of beans.

All of the forgoing rather assumes the more or less direct purchase of pottery by consumer from the local area, whether as vessels or, probably more likely, as invisible containers for local produce. This is not always the case. Moorhouses' work at Kirkstall Abbey and Sandal Castle indicated that manorial sites may be supplied with produce from other, sometimes much more distant, estates in the lord's holdings. They may also, in the case of Kirkstall Guesthouse, on a major trans-Pennine route, have had guests staying at the medieval equivalent of a motel and bringing supplies with them.

This is, unfortunately, about as far as we can take things at the moment. Lack of time in which to produce this interim report unfortunately precludes further, properly considered and properly referenced, discussion of these interesting factors that are critical in providing the theoretical framework by which the likely mechanisms controlling the spread of pottery from maker to user can be evaluated, interpreted and understood. It is hoped that further work on the Bainbridge site will allow this debate to be more fully engaged with.

The medieval pottery itself, while quite varied in visual appearance, for the most part actually shares a fairly standard range of inclusions, suggesting most of it probably comes from quite similar geological deposits. The only exception was the possible Saxo-Norman sherd SNX which, with its soft rounded clay pellets and rounded quartz appears distinctly different to the rest of the pottery from the site. While at present it is not possible to determine the 'local area' from which pottery was sourced, it does at least seem reasonable to conclude that SNX came from an area which had a pottery industry that did not routinely supply the Bainbridge site.

## Appendix 04: LiDAR and Historic Mapping Observations:

### Roman Road:

Cam High Road is a recognised Roman road and was also, from 1756, a turnpike road. For most of its line the road is considered to precisely follow its Roman predecessor (Haken 2018). The line of the road as it approaches Bainbridge, crosses the Bain and accesses the Roman fort on the east side of the River Bain (Figure AP4RR1) is, however, uncertain (Haken 2018). Today the Cam High Road diverts from its straight course as it approaches Bainbridge (Figure AP4RR1), giving a slight northwards wiggle at point A (probably to more easily cross a gully heading for the Bain valley), curving gently SE (B) and then curving more strongly to the north, skirting the boundary of the Area of Investigation (C) and descending Scott Hill to the floodplain of the River Ure, where the present settlement of Bainbridge is located. This gentler route, more suitable for wheeled traffic as it follows the contours of Scott Hill, was present by the time of the 1854 survey for the 6" Ordnance Survey map.

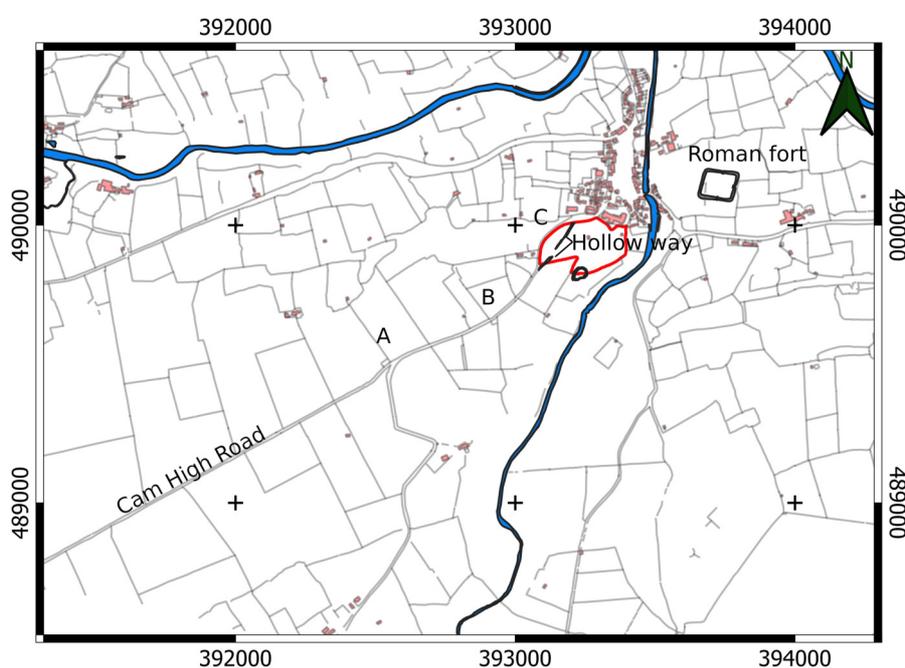


Figure AP4RR1 - Diversions from the straight line of Cam High Road as it approaches Bainbridge.

Earthworks suggest that an earlier, more direct, route went straight up the side of Scott Hill rather than curving around it. This route is today represented by the substantial hollow way that can be found in the NW part of the Area of Investigation; the route is obliterated in the middle of the Area of Investigation by later landscaping / drainage but emerges again at the SW edge and in the adjacent land parcel to the SW. A small triangular parcel of land between the hollow way and the modern road is shown as having mixed woodland on the 1856 map (land parcel E, Figure 04), perhaps suggesting the straighter route had been out of use for a while. The direct assault on Scott Hill represented by the hollow way would not necessarily be a problem for livestock and foot traffic (though diversions to either side of the main hollow way might be taken if the route became too wet and boggy) but would be impassable to wheeled traffic in most situations. The diversion following the contour of Scott Hill at point C is therefore likely to be a response to the requirement for wheeled vehicles to access Cam High Road: it was present by the survey for the first 6" Ordnance Survey map in 1854: it was perhaps most likely to have been created when the road was turnpiked in 1756.

It is possible that the hollow way follows the course of the Roman road but this may not be the case. LiDAR data indicates that a number of paths are eroded into the hill sides between points B (Figure AP4RR1) and the hollow way in the Area of Investigation. These follow

broadly parallel but laterally dispersed routes. This is a common feature of medieval roads; it was noted during the fieldwork for the survey reported on here that the base of the hollow way on the site was unpleasant and boggy and essentially impassable at certain times of year; if subject to even occasional traffic (which it is not at present) conditions would be much worse. In such conditions the road user would seek alternative routes, usually to one or other side of the worst parts of the road. A road would consequently migrate laterally within its permitted corridor over a period of time. Fleming notes similar migration of well used routes in neighbouring Swaledale and presents a graphic illustration of such at Threllesgata, formerly a road into Swaledale (Fleming 1998, 102, fig 7.2). The LiDAR data shows a similar (though less extreme) picture, with a number of short fragments of hollow ways following broadly similar but spatially distinct alignments between the Area of Investigation and point A (Figure AP4RR1). The route followed by users of this route down the slippery Daleside Till slopes to Bainbridge is likely to have migrated frequently in the post-Roman period and the original Roman route, if it ran on this alignment, may have been obliterated by the constant erosion of migrating post-Roman tracks.

However, when one extrapolates the line of the hollow way in the Area of Investigation or other earthwork remains of possible route ways, none appear to line up with the line of the causeway coming out the south gate of the fort or with the line of the Cam High Road. Roman roads are often considered to be straight and the Cam High Road is no exception: RR Margary 73 (Cam High Road) is recognised as consisting, from Wether Fell, of a series of short, straight segments 'the longest being only a mile, cleverly utilising the topography to make the easiest possible crossing' (RRRA). The use of short but straight segments of road to deal with difficult topography makes it plausible that the Roman road as it dropped towards the floodplain of the Ure and the crossing of the Bain would similarly have consisted of straight sections rather than curving around contours or other obstacles; it might also be anticipated that the route would be planned to ensure changes of direction were kept to a minimum.

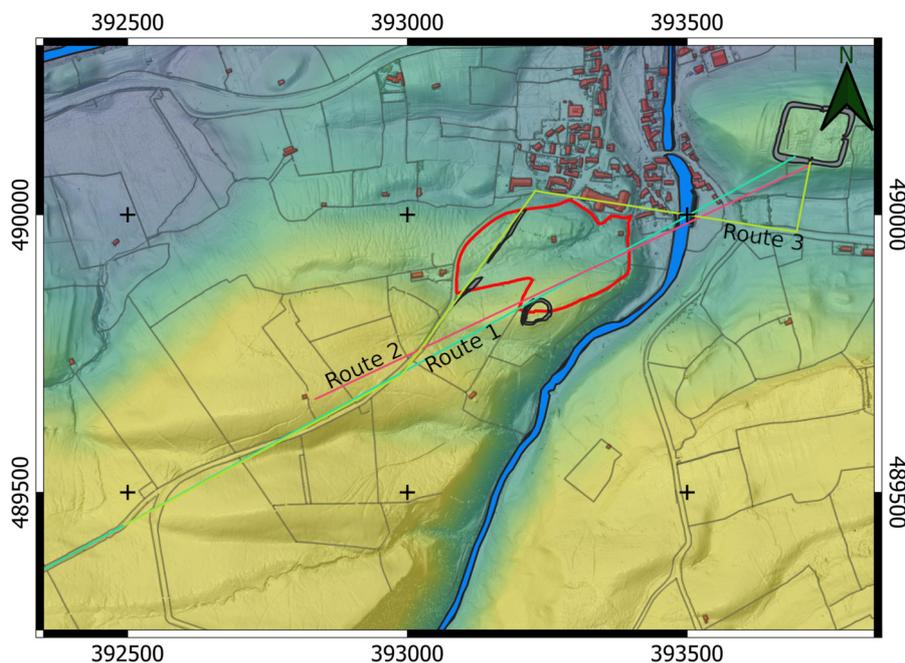


Figure 33 - Extrapolated routes on topography.

Figure 33 shows extrapolations of the various routes that the road could have taken. Sky blue Route 1 extrapolates the existing straight line of Cam High Road. This route clearly lines up with the centre of the fort, supporting Haken's assertion (2018) that the road was laid out in relation to the fort. However, the topography suggests that this direct route is implausible, with several steep slopes that would have to be tackled if this route were employed; these include the hill on which the Slight Univallate Hillfort sits and the steep drop down to the floodplain of the River Bain beyond.

For similar reasons, the difficulty of the topography also suggests that the direct route following the line of the apparent causeway running from the south gate of the Roman fort (reddish pink route 2) is unlikely to have been used.

The foregoing therefore suggests that a direct route from the end of the straight part of Cam High Road at point A (Figure AP4RR1) to the Roman fort is unlikely. A straight course with a minimum of changes of direction must be sought, though to have any relevance it should preferably utilise known earthwork and topographic features.

With four changes of direction (Figure 33, yellow green Route 3) it is possible to come out of the south gate of the fort, straight down slope (following a line of a possible former route on the LiDAR); turning west and following the modern A684 for a short while before crossing the River Bain; continuing in a straight line it is possible to skirt the steeper northern sides of Scott Hill before assaulting it via the earthwork hollow way; one more course correction allows the line of Cam High Road to be reached.

This route uses the hollow way in the Area of Investigation; in its present form it is probably too narrow for a Roman road but erosion in the post Roman period could account for this. However, it still requires a fairly direct assault on Scott Hill, and multiple significant changes of orientation in a short stretch of road.

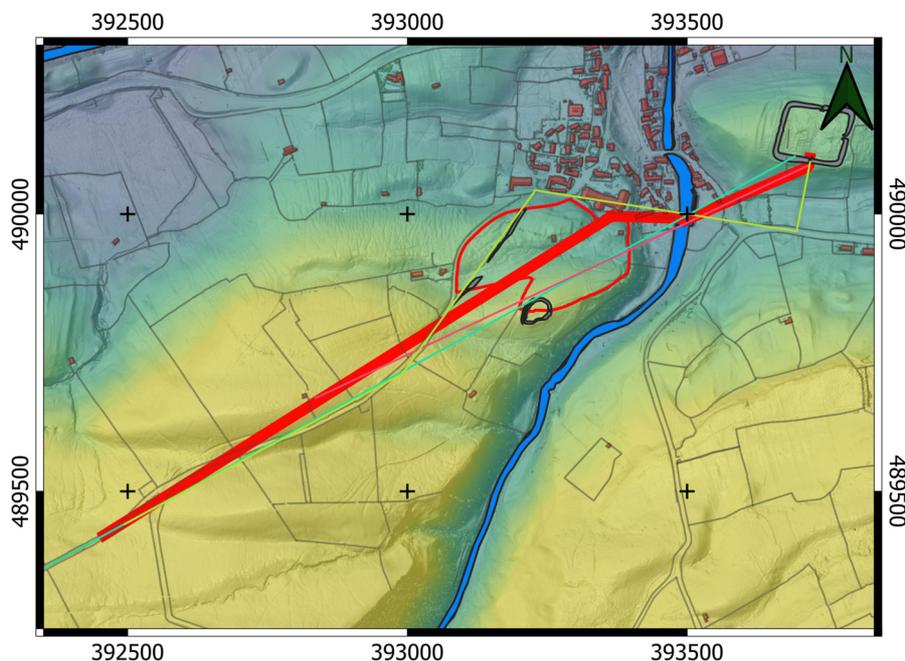


Figure 34 - Suggested possible course of Roman road (thick red line) through the topography using the shallowest available gradients and the least deviation from the existing road orientation

If one extrapolates the line all of these suggested routes they all appear likely to have crossed the River Bain at about the same point, approximately 120m upstream of the modern Bain Bridge. It seems reasonable to assume that the Roman military engineers would seek to limit deviation of the road from the ideal course, represented by route 1 in Figure 33, as much as was practicably possible. Additionally, they would probably refrain from constructing a route that would be, in any significant part, out of sight of the main garrison when in the environs of said garrison, or that could be occupied by an enemy force without being seen from the fort.

The most simple 'path of least changes' that the road might have taken involves crossing the River Bain at the point where the extrapolated alignments of the causeway from the south gate of the fort and the line of the straight 'Roman' parts of Cam High Road intersect. Once on the west bank of the Bain this possible route may have turned almost due west, passing under the site of the much later Bain House until, at a point south of the much later Bainbridge Hall, it might have turned SW and proceeded up, between the eastern flank of Scott Hill and the western flank of the un-named hill to its east, following this alignment until it joined the

'straight' part of Cam High Road, with only a very slight realignment of course required at point A where it joins Cam High Road (Figure 34).

This line appears to be the most efficient route through the topography; it is the first direct but relatively shallow route from the valley base to the high ground SW of Bainbridge (Figure 35) and avoids the much steeper direct assault on Scott Hill represented by the hollow way. If it were an early route it might perhaps account for the otherwise unusual shape of the small land parcel A (Figure 04) mapped by the Ordnance Survey in 1856; the northern and NW boundaries of this parcel appear to occupy a flattened piece of land that has the appearance of a track way (e.g. Plate 11).



Figure 35 - 3d model of LiDAR data showing possible route of Roman road in relation to topography in the Area of Investigation.

One final possibility to be mentioned is a terraced route that follows the eastern boundary of the Area of Investigation, winding its way from the village to the higher ground around the contour of the hill. The LiDAR shows this feature as a significant terrace becoming a substantial hollow way to the south of the Area of Investigation. The curving nature of this route suggests it may be later than the Roman period but it remains a possibility. It is presently a public footpath.

### **Bainbridge Village:**

The present village of Bainbridge is a fairly typical northern village with a rectangular green and rows of tofts and crofts, with the fields beyond (e.g. Wrathmell 2012, 260-1; Austin 2007, 670). LiDAR and historic mapping show a well preserved row of regular west - east crofts extending off the west side of the green; the boundaries of at least ten tofts appear to be visible in the data with the spacing allowing about eleven or twelve to fit into the pattern, though the southern part is largely obliterated by post medieval development. There is another fairly clear row of shorter crofts of a similar or perhaps slightly wider spacing on the northern edge of the green (though these are not perpendicular to the western group). There may be at least 6 or 7 in this northern block; the modern Rose and Crown Hotel, proudly claiming to date to 1445, appears to occupy two of these plots. Historic mapping appears to suggest that the lower lying eastern part of the green may have similar spacing of properties but these are crammed in on the edge of the Bain with little space to the rear for crofts. Mills were situated in this part of the settlement in the nineteenth century and presumably before. The proximity to the River Bain reducing the amount of land for tofts and crofts suggests this side of the green may have been a less favoured location for settlement (other than for activities requiring the river, such as milling) and the occupation on this side of the green may largely represent later infill on this side of the green. The test pitting project undertaken by YAC and YDNPA seems to support this assertion: the majority of test pits were located on the green and in the eastern part of the settlement and very little evidence for medieval

occupation or activity was found. There were very few test pits in the western, northern and southern parts of the settlement (YDNPA 2018, 8-11), where the LiDAR and historic mapping suggest medieval occupation is most likely to have been present.

While the settlement pattern on the west and north sides of the green appears to be aligned on the green and the river, the pattern to the south is less obvious. This may, in part, be due to modern development removing any traces of earthworks which might indicate how the land was divided from the LiDAR data to the south of Bainbridge Old Hall; post medieval / modern infill to the east of the Hall and around Bainbridge House has had a similar masking effect. The old hall may not equate to the medieval manor house: it has architectural features of the seventeenth century (YDNPA HER) and it is possible that Bain House was instead the site of the manor house (S Moorhouse pers com via S Crossley pers com). The Old Hall is on the same alignment as the plots on the western side of the green, although it sits further east than any of them which perhaps indicates that it was not part of the western row of the village. The other buildings to its east, including Bain House, do not so obviously belong to the broadly west - east pattern of settlement around the green.

It has been suggested that Bainbridge was a planned settlement, laid out in the early part of the Norman period (YDNPA 2018, 11); such appears to have been the case with the vast majority of northern settlements (Wrathmell 2012, 260) and Austin has discussed how the planning of villages using a standard, simple, conceptual template (a green, regular tofts, location of fields, larger plot for manor house, etc: though the precise execution of the template was in each case a product of negotiation between local factors) may have been introduced into the estates of the Balliols of Barnard Castle (Austin 2007, 669-670).

Examination of the LiDAR data suggest there may be a slightly greater complexity to the settlement than the suggestion that it is an early Norman planned village might imply.

The green and the western row, with its even spacing of tofts and the fields beyond, to the west, are a prime candidate for the planned settlement. It is tempting to note that Ranulf son of Robert son of Ralph, Lord of Middleham, stated that: 'the town of Beyntbrigg belonged to his ancestors by service of keeping the forest, so that they might have abiding there 12 foresters, and that every forester should have there one dwelling-house and 9 acres of land' (Page 1914). It may be interesting to note that, while only ten tofts are visible in the LiDAR data for the western row of the village, the regular width of the tofts and historic boundaries indicate that there is room for about twelve tofts in the western row of the settlement. It is tempting to link the ten to twelve tofts in the western row of the settlement with the documentary evidence of dwellings for twelve foresters in the village: to posit such a link would, however, be on the basis of speculation or belief rather than evidence.

The row to the north of the green has tofts of a wider and shorter form. It is probable that this part of the settlement is of different date than the western row. It may be later than the western row and may represent an expansion of the settlement along the modern A684.

Both the eastern and southern parts of the settlements cannot be described as having rows of regular tofts and crofts. The location of the green, in such close proximity to the River Bain, does not leave room for a row on the eastern side so apart from industrial activity using large quantities of water, or industries exploiting water power, such as milling, it seems possible that settlement on the eastern side of the green is later infill: this is also suggested by the YDNPA test pitting (YDNPA 2018). The settlement to the south of the green may be older.

As has been noted above, Stephen Moorhouse has suggested that the Roman fort at Bainbridge may have been the focus of early post Roman settlement in Wensleydale. It is not impossible that the Roman (or early post Roman) crossing of the River Bain, most plausibly located somewhere between the present Bain Bridge and up to 120m upstream (south) of it, and the road taking whatever course it did from the crossing to join the present Cam High Road, may have formed a focus for the earliest settlement on the west bank. That the more or less precise line of Roman Cam High Road was remembered and utilised down until it was turnpiked in the eighteenth century suggests that the route remained valid and in use in the post Roman period. The settlement pattern in the southern part of the settlement does not

appear to be aligned on the green or the western row of the settlement, or topographic features such as the River Bain; the latter is in close proximity here (though an island perhaps related to the position of a mill may be responsible for part of the settlement pattern in this location). It may be possible that the alignment of settlement on the south side of Bainbridge is of earlier, perhaps much earlier, origin than the other parts of the settlement. If the Roman road took the preferred course suggested above (Fig 35) it might be that the River Bain crossing of the road and its subsequent alignment as it headed SW formed a focus for occupation. Such, presumably organic, growth of settlement, may account for the difficult to read settlement pattern on the south of the green. This might suggest an organic and informal settlement on the west bank of the River Bain along the possible course of the Roman road, with a circa mid twelfth century planned village being established with a green and western row: possible later additions of ?planned tofts on the northern side of the green, and infill against the River Bain on the east side of the green.

However, it should be noted that this sequence of settlement development is entirely speculative. The course of the Roman road leaving the fort to the straight parts of Cam High Road is not known. The dating of the various parts of the village of Bainbridge are unknown. Whether the post medieval landscape recorded on historic maps and in modern land parcel boundaries, and the earthworks seen in LiDAR, in any way reflect the medieval and earlier post-Roman patterns of land use, are also uncertain. The forgoing discussion also does not take account of the extensive earthwork evidence for cultivation and land divisions around and north of the Roman fort on Brough Hill, the township boundaries around it or any of the other evidence. The suggestions in this Appendix have arisen from observations on the immediate vicinity of the Area of Investigation made during processing of LiDAR data for this project and from the examination of the archaeological and historical evidence for the Area of Investigation: the suggestions are offered so that they may be examined and refuted or modified as necessary by future work, or may be completely ignored if examination of the wider historic landscape finds them invalid as a result of the small area considered or other factors.

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## Appendix 05: Pottery Archive

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

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

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

Frequency: Com - common. Mod - moderate. Abun - abundant. Frequency of inclusion ranges from (increasing in percentage) rare, sparse, moderate, common, abundant. May include eg mod-com.

F - fine (0.1-0.25mm)

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

Coa, coarse - 0.5 - 1.0mm

VC, VCoa - very coarse / gritty, 1.0mm +

f-m would, for example, indicate general size range of 0.1 - 0.5mm.

Similarly, a qualifier (sandy or Q for quartz, shell for ?fossil shell, Fe for iron etc) may be appended to size range.

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

Inclusions:

Q - quartz

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

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

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

Degree of rounding:

R - well rounded

SR - sub rounded

SA - sub angular

A - angular.

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

Shorthand:

med - observe context - may mean medieval (eg pmed - post medieval, Emed - early medieval) or medium. LM - EPM represents late medieval to early post medieval.

Pottery Archive for Bainbridge surface artefact scatter, Bainbridge, Wensleydale, Yorkshire (BBR18)

David James Budge

Find code	cname	full name	sub fabric	form type	decoration	sherds	weight	part	
AAA spalls	NGR	Northern Gritty ware	Fabric 1;white	jar		1	8.5	base	knife trimmed base;ext a few sooting incl over one break lost good
otherwise									
AAB	MEDLOC	Medieval local fabrics	Fab F;Orange oxid micaceous'fine sandy	jug		1	0.9	BS	Ext mottled Cu susp glaze flaking off;soft fabric
AAC	NGR	Northern Gritty ware	Fabric 1	jar		1	25.3	BS	flake from base fresh
AAD	MEDLOC	Medieval local fabrics	Fab C;oxid orange fine micaceous	jug	single thumb impression to lower wall	1	1.1	BS	ext decayed glaze;thumbing to base mod abr
AAE	MISC	Unidentified types	?ID;may be strange TVW B;clean streaky orange and white sandy clay with Fe etc	?jug		1	0.8	BS	?ID;probably med but could be pmed fab fresh
AAF	TVW	Tees Valley ware	C	jug/jar/bowl		1	0.5	BS	quite fresh

Find code	description	cname	condition	full name	sub fabric	form type	decoration	sherds	weight	part	
AAG	BERTH half	Brown glazed earthenware	?ID may be med;orange to white soft;Q Fe mica siltstone	?ID may be	?bowl			2	1.1	BS	?int orange glaze;?ID split in probably related to BERTH but fabric gives possibility of med date
AAH	TVW	Tees Valley ware	B	B	jug	vertical stripe of strong Cu green colour in glaze under horiz cordon		1	5.7	BS	
AAI	RG5	Reduced Green Glazed 5	oxid ext;fabric sim to BAN	oxid ext;fabric sim to BAN	?			1	0.5	flake	
AAJ	SLIP	Unidentified slipware	buff;ext slip only	buff;ext slip only	hollow	ext red slip		1	1	BS	int and ext glaze;burnt;thrown vessel burnt
AAK	NGR	Northern Gritty ware	Fabric 2;black coarse sandy to gritty brown ext	Fabric 2;black coarse sandy to gritty brown ext	?Jar/bowl			1	1.6	BS	int decayed glaze
AAL	TVW	Tees Valley ware	B;fab burnt	B;fab burnt	wide mouthed jar			1	4.3	rim	Burnt;TVW form
AAM	MEDLOC	Medieval local fabrics	Fab D;very soft orange micaceous sparse Q	Fab D;very soft orange micaceous sparse Q	jug	poss ext incised dec and glaze		2	9.7	BS	v abr v abr
AAN	STSL	Staffordshire/Bristol slipware	brick red with off white SA CP and occ white streaks	brick red with off white SA CP and occ white streaks	press moulded dish	moulded leaf filled with brown slip on a white slip bkgnd		1	6.5	BS	Presumably local Yorks not Staffs product
AAO	CREA	Creamware	pale	pale	?mug	ext horiz bands with brown slip in them		1	0.4	BS	Industrial banded slipware vessel
AAP	MEDLOC	Medieval local fabrics	Fab E;orange sandy micaceous	Fab E;orange sandy micaceous	jug			1	1.1	rim	either rim or handle;thrown;ext ?burnt

Find code	description	cname	condition	full name	sub fabric	form type	decoration	sherds	weight	part	
AAR	BERTH	Brown glazed earthenware		dull red fine sandy		small jar / ch		1	5.7	base	int glaze with many horizontal striations from stirring ext burnt
AAS fresh	BERTH	Brown glazed earthenware		orange red fine sandy micaceous		hollow;?costrel		1	1.3	BS	Ext thick treacle glaze with quite Q;?ID poss CIST???
AAT	MEDLOC	Medieval local fabrics		Fab D;?id;soft orange unabrased micaceous with sparse grit;see AAM and ACL		hollow		1	1.2	flake	?ID;fabric as ACL and flaked but probably AAM though the latter dirtier with less Q;AAM med
AAU abrased;glaze	MEDLOC	Medieval local fabrics		Fab A;orange to grey sandy to gritty micaceous		?jug		1	4.7	BS	ext brown pocked glaze;see AAM (this sim flaked clay but with Q)
AAV	GRE	Glazed Red Earthenware		?ID;fine sandy micaceous dull oxid;could be GRE but glaze not too good		?bowl or jar		1	1.4	BS	int pocked orange susp glaze somewhat decayed to sulphur yellow
AAZ	MEDLOC	Medieval local fabrics		Fab B;buff sandy micaceous		?Jar bowl		1	2.4	BS	?form;jar bowl on sooting but may be jug;possible internal knife trimming
ABA	NGR	Northern Gritty ware		Fabric 3;?hand made;reduced		?jar		1	4.2	BS	ext sooting traces mod abr
ABB spalled	NCBW	19th-century Buff ware				?hollow		1	0.4	BS	quite
ABC	LMLOC	Late Medieval local fabrics		high fired		jug		1	1.2	rim	ext brown purple glaze;simple slightly thickened rim with flat top
ABE	BERTH	Brown glazed earthenware		smooth high fired purple sparse med sand		ch pot		1	4.9	BS	int horiz scratches from cleaning out vessel;int and ext glaze

Find code	description	cname	condition	full name	sub fabric	form type	decoration	sherds	weight	part
ABF	TVW	Tees Valley ware		B	jug	cream slip over body;applied scales;paler green colourant over scales	1	1.6	BS	
ABG	SNX	Non-local Saxo-Norman Fabrics		white micaceous sandy almost gritty with clay pellets	jar		1	3.9	base	base knife trimmed before external wall sooting
ABH	RG5	Reduced Green Glazed 5		lacks the quartz and other incls in the other RG5s from site	jug / cistern		1	0.8	flake	ext glaze decayed to gold abraded
ABI	RG5	Reduced Green Glazed 5			jug / cistern		3	115.8	BS	flaking ext glaze Fresh
ABJ	TVW	Tees Valley ware		B;reduced;oxid int and crack	Jug		1	1.4	BS	firing crack;ext susp glaze
ABK	BERTH	Brown glazed earthenware		pale orange sparse fine Q mod Fe sparse mica	large bowl		1	15.9	BS	Ext abraded in use? mod abr
ABL	PEARL	Pearlware			bowl or plate	int sponged u/g red dec	1	1.1	BS	thin walled vessel
ABM	SLIP	Unidentified slipware		brick red fine medium sandy	bowl	int white slip	1	4.6	BS	late;?YGCW fresh
ABN	CREA	Creamware		pale;has Co speckle in glaze	plate/dish	int speckle of Co poss from shell edge or other	1	0.7	base	low rounded footring abraded at base of footring
ABO abrasion	CREA	Creamware		pale	plate/dish		1	4	base	flat base no use footring;abrasion to edge to base of base from use

Find code	description	cname	condition	full name	sub fabric	form type	decoration	sherds	weight	part	
ABP	BERTH abrasion	Brown glazed earthenware		brick red fine sandy		large bowl		1	11.2	base	ext ?sooting but abraded use around outer part of base from use
ACA	TVW	Tees Valley ware		B; pale orange to white micaceous high fired sandy to gritty;?TVW?		jug		1	5.5	bs	upper handle attachment;ext splash of glaze
ACE	cbm	Ceramic building material		frag				1	0.7	BS	
ACF	TVW	Tees Valley ware		A;?ID		jug or jar	sparse thumbing or knife trimmed indentations to base	1	17.7	base	?ID
ACG	NGR	Northern Gritty ware		Fabric 4;soft sandy to gritty micaceous		jug		1	0.8	BS	same fab as ABO;somewhat decayed ext green susp glaze
ACH	TVW	Tees Valley ware		C		jug/jar/bowl	ext thick white slip	1	1.4	BS	fresh
ACI	NGR	Northern Gritty ware		?fabric 1 but too small to be certain		?		1	0.1	flake	has external clear ?susp glaze spot
ACJ	TVW	Tees Valley ware		?ID;?B		jug		1	14.2	handle	chunky strap two medial ridges;?ID;has more iron of larger size and different type than most TVW B
ACK	MISC	Unidentified types		grey;sparse gritty Q;cp/fg SST;mica;very strange fab		Large hollow?		1	8.5	BS	may be drainpipe but is thrown and ext glazed only;looks like BS but can't be

Find code	description	cname	condition	full name	sub fabric	form type	decoration	sherds	weight	part	
ACL	MEDLOC	Medieval local fabrics		Fab D;Soft orange micaceous sparse gritty Q;fab as AAM and AAT	?			1	1	BS	?ID;See AAM and AAT
ACM	TVW	Tees Valley ware		B		jug		1	5	base	ext splash of glaze
ACN	BERTH	Brown glazed earthenware		Fine orange		hollow		1	1.4	BS	
ACO	NGR	Northern Gritty ware		Fabric 4;black;white surfaces ?hand made;ext reduced green susp glaze		jug	Ext green reduced Pb susp glaze pocked	1	11	BS	possibly hand made
ACP	PEARL	Pearlware				tea bowl	int and ext blue hand painted dec chinoiserie	1	0.2	rim	
ACQ	OTW	Osmotherley Type Ware		?ID;fine sandy white clay streaks and SR lumps;oxid int reduced		jar/chpot		1	1.5	BS	?ID;as samples ID as OTW at St Giles hospital;int glaze ext glaze stops at line part way down body
ACT	PREH	Prehistoric wares		oxid brown sandy calc grog Fe		hollow	Finger nail impression	1	0.6	BS	?ID; v abr;dec does seem real;therefore Lneo or BA
ACU	WHITE	Modern whiteware		?ID may be pale CREA		?hollow		1	0.2	BS	
ACW	STMO	Staffordshire/Bristol mottled-glazed		buff		?		1	1	base	thick int pooled glaze
ACX	SLIP	Unidentified slipware		buff		hollow	red slip under plain glaze	1	1.3	BS	

<b>Find code</b>	<b>description</b>	<b>cname</b>	<b>condition</b>	<b>full name</b>	<b>sub fabric</b>	<b>form type</b>	<b>decoration</b>	<b>sherds</b>	<b>weight</b>	<b>part</b>
ACZ	PORC	Porcelain			carinated form;hollow	ext tp u/g blue ?smoke	1	0.5	BS	
ADA	WHITE	Modern whiteware			hollow/bowl	int and ext u/g blue sponged	1	1.5	BS	

