Castlefield, Bolsterstone, South Yorkshire
Excavation Autumn 2008

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(with contributions by C. Cumberpatch and W. Goodhind)

Bolsterstone Archaeology and Heritage Group

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1. Summary

Following a suggestion by the owner of "Castlefields", a private property in the village of Bolsterstone, South Yorkshire, an archaeological investigation was carried out at the property during October and November 2008 (see figure 1 below). One trench was excavated in the north garden, where it was known that part of a blacksmith's forge and workshop had once existed, until its demolition in 1958 (reported in *The Star* newspaper that year). The trench was sited at right angles to the long axis of the main part of the former building, taking in part of its interior, the west wall, and part of either a yard area or annexe immediately to its west, by reference to a surviving impression of the north end of the long axis of the main part of the building, as preserved on the wall of an adjacent property (see plate 12).

The investigation was carried out by members of Bolsterstone Archaeology and Heritage Group.

Excavation revealed a complicated structural sequence, and sequence of use, as evidenced by successive builds, demolition and disuse, a late cut for the instalation of piped water, cuts and re-cuts (including cutting into disused masonry) for the disposal of metalliferous waste into a pit, an accretion of metal debris over a floor surface, itself overlying the aforementioned disused masonry, and under this a yet earlier remnant of wall build, lying in footings cut to a greater depth than those supporting the other, later, structures in the trench.

Large quantities of pottery accompanied all of the above phases, dating from approximately the late 15th century to the 19th century, the largest quantity of which related to the 18th century.

Broadly speaking, it is clear that a building, or buildings, stood on this site for several centuries, and was either rebuilt or remodelled on several occasions. It is likely that its precise functions changed over time, but there is little doubt that for all or most of its history, its main functions related to the working of metal.

2. Location, geology and topography

Bolsterstone is situated to the eastern edge of the Millstone Grit group of Carboniferous sedimentary rocks. The village is located on a high ridge, roughly 295 m above sea level, between the Ewden and Little Don Valleys. This location affords excellent views towards Barnsley in the north-east, and towards Sheffield in the south-east. The village lies approximately 12 kilometres north-west of Sheffield.

The site investigated lies close to the centre of the village (see figure 1), at the property of W. Goodhind, a house lying to the immediate west of the village field where archaeological

excavation has recently taken place (see below). The property includes three gardens, to the north, east, and to the south of the house. The investigation was concentrated in the north garden.

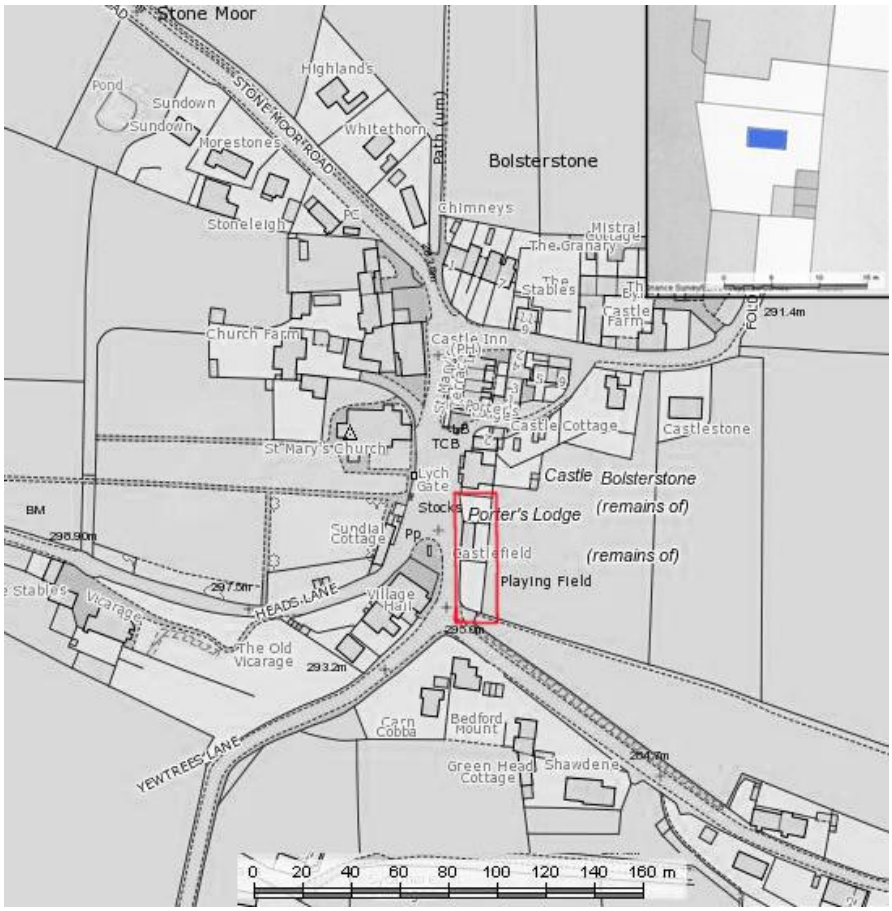

Figure 1, 1:2500 scale map of Bolsterstone, with "Castlefields" marked red and the position of the trench marked blue (inset).

The underlying geology in the vicinity of the site consists of shale bedrock (Merrony 2008). At the site itself, natural undisturbed clay was encountered beneath the archaeological deposits, overlain by a clay rich subsoil similar to that encountered in recent work in the vicinity (Merrony 2008). The topsoil was sandy black brown in nature, differentiating it from topsoil in the adjacent field. The natural undisturbed clay was encountered within 0.5 metres of the surface.

3. Historical and archaeological background (with contribution by W. Goodhind)

Bolsterstone lies in the Manor of Waldershelf, in the Byrelaw of Waldershelf, and in the Parish of Ecclesfield. Waldershelf is mentioned in the Domesday Book, which relates to 1 Carucate of land held by Godric (Williams and Martin 2002: 794) and 1 Carucate held by the king (Williams and Martin 2002: 866). There are later references in deeds of 1258 (MSS. SpSt/4/11/128/1, quoted by Merrony 2008) and 1273 (MSS. SpSt/4/11/95/2, quoted by Merrony 2008). These documents refer to Waldershelf, but not specifically to Bolsterstone.

More specific references to the village begin when the Manor of Bolsterstone passed from the de Midhope family to the de Sheffields and then subsequently by marriage to the Rockley family of Westborough (Merrony 2008). In 1412 Robert de Rockley gave £5 for the establishment of a Chantry where prayers were to be said for himself, his son and his deceased wife (Hunter, 1819: 476-7, quoted by Merrony 2008; Eastwood 1862: 479).

The location of the Chantry is unknown, but is likely to have been associated either with the high status building probably located to the north west of the village field, or the later church site (Merrony 2008). John, the second Earl of Shrewsbury (died 1460) is said to have been the lord of Bolsterstone during the first half of the fifteenth century (Eastwood 1862: 68). Manor Courts are believed to have been held in the village between the 15th-17th centuries, and a reference from 1587 suggests that the Earl of Shrewsbury stayed in the village at this time (Merrony 2008). These references support the idea of a high status residence being located in the village during the post-Mediaeval period.

The first school in the village is said to have been established by Ralph Ellis in 1622 (Eastwood 1862: 481). Later in the 17th Century, after the civil war, documents reveal that bowls were played in the village. In his diary Adam Eyre of Hazelhead records that he often came to play bowls, gamble and lose (Eyre, 1646: 40, 46-47, 50-51).

From the 18th century the Chapel of Bolsterstone gradually became dilapidated until it was subsequently rebuilt. We also learn that a free school was established, and that local industry was developed (Merrony 2008).

The earliest reference to a Blacksmith's workshop and forge in the area relates to those known from hearth tax returns of 1672 (Hey 1991). These had two and three hearths repectively, but are not more closely located than to the Manor of Waldershelf. However, the Blacksmith's workshop at Bolsterstone is known from the testimony of surviving witnesses to have had two heaths in the last phase of its existence. It is thus arguable that Bolsterstone Blacksmith's workshop and forge was one of those known from 1672.

Census returns for 1841-1901 prove that blacksmiths were at work in the village from that date, but the earliest secure reference to the building itself comes from an auction plan of 1865. A deed relating to the actual sale, from 1866, shows that it passed at that time into the ownership of Mr. George Steel.

Most remaining references to the building and its use come from surviving witnesses, who remember details about it relating mostly to the mid 20th century, but also preserving stories

surrounding its use. These testimonies are supported by a detailed description of the forge provided in unpublished memoirs by the late son of the last owner of the smithy, Michael Rawlin, before its demolition. From these witnesses it is clear that the building functioned as a workshop and forge until 1947, but with only the south hearth in use at this time (P. Dawson, personal communication). A curious anecdote relates how some time before that, a local Carpenter, a Mr. Wainright, would hold dental surgeries at the premises regularly on a Friday morning. Here he would perform extractions of teeth. The tools Mr. Wainright used are reputed to still exist somewhere in the vicinity of the village, at a farm. As yet, the precise whereabouts of the tools has not been established, so confirmation of their existence must await further developments. Other activities recorded as having taken place at the forge included the shoeing of horses, the manufacture of cart wheel tires, and, alledgedly, the manufacture of the railings still in situ around the village church.

The west wing of the building is believed to have been where horses were shoed (S. Clegg, personal communication) popularly known as "the stable"(Rawlin 1999), and to the immediate west of this was sited the template around which iron cartwheel tires were shaped. Somewhere in the centre of the building is where the anvil is said to have been sited (P. Dawson; S. Clegg, personal Communication).

The last member of the Steel family to own the workshop, Mr. Edward Steel, sold the the building to Mr Malcolm Rawlin in 1950 (*The Star*, June 26 1958).

Several members of the local community remember the building in its last days, when they were children. Apparently the owner at this time used to keep a collection of muskets in the building (R. Middleton, personal communication). All remember playing in, and on top of, the old workshop.

The demolition of the Blacksmith's workshop and forge took place in 1958, to the dismay of many members of the local community who regarded the workshop as being a local landmark of ancient standing (*The Star*, June 26 1958). The newspaper article of that year claimed that the building was 300 years old, and Mr. Bernard Steel, brother of Edward, claimed that the building had been in the ownership of his family for two hundred years prior to being sold. The deed of 1866 ref ered to above would seem to cast doubt on that claim, although it is just conceivable that the previous owner was a member of the same family. More likely, this is a case of a tale growing in the telling, and is a warning against the taking of oral traditions at face value.

Nevertheless, given the signs of re-use of masonry from earlier structures within the essentially 19th century village, one would be unwise to dismiss out of hand the claim that the workshop had existed for several centuries; a number of buildings incorporate features of late mediaeval date, including late mediaeval windows, a fragment of arch, and large slabs of re-used masonry. Michael Rawlin is quite clear in his memoirs that "The building had obviously been built at three periods", which he deduced from observation of the different types of timbers visible in the roof.

The earliest known archaeological research conducted in the village was directed by Cannon Wilson in 1878 (Merrony 2008) in the village field, which apparently revealed evidence of Mediaeval structures. No more archaeological work was undertaken until 2005, when geophysical survey of the field, and an adjoining field, was conducted (Merrony and Powell 2005). This was followed by evaluation excavations in 2006, and two more seasons of

excavation in 2007 and 2008, all in the village field, and in gardens bordering the north side of the field (Merrony and Powell, 2006; Merrony 2008). This work resulted in the identification of substantially built structures to the north east of the field, which were the site of activity relating to agriculture, and domestic use, very likely to be associated with a high status building which probably occupied the built up area to the north and north west of the field. Little evidence of any significance from the southern half of the field came to light during these investigations, until at the end of the 2008 season clear evidence for the existence of a small bank and ditch was found adjacent to the enclosure wall overlooking the scarp to the south.

No other archaeological records exist for the area investigated.

4. Aims of the Archaeological Investigation

The excavation reported on here was conducted at the suggestion of the owner of "Castlefields", W. Goodhind, prior to the landscaping of the garden to take place in the near future. It was noted that the garden to be landscaped occupied the site, or a substantial part thereof, of the former Blacksmith's workshop and forge, and that an ideal opportunity existed therefore to establish its history of use, and how that related to the rest of the village as it now is, and the structures already investigated.

5. Methodology

The site was investigated by the excavation of a single trench of 2 metres by 4 metres. The trench was sited to take in the interior of part of the former building along its long axis running north-south, bisecting it at right angles, and incorporating the line of the former exterior west wall. The remainder of the trench included the likely location of either a yard area to its west, or part of the west wing, the "stable", (see figure 2). The task of situating the trench was greatly eased by the existence of an impression of the north end of the former building, preserved in the south wall of the adjoining property, "Castle Green"(see plate 12).

The excavation was carried out by members of Bolsterstone Archaeology and Heritage Group, under the direction of Mr. Tim Cockrell.

The turf on the trench was removed by hand, and the resulting surface was cleaned. Archaeological features were excavated by hand and recorded in order to establish their date, nature, extent and condition. A complete written and photographic record was made of the trench. All finds of significance were retained for further analysis. Photographs were taken in 35mm colour print and in colour digital format. Fieldwork was undertaken between 4th October and 1st December 2008.

6. Results

Work began with the removal of the turf and topsoil contexts 1001 and 1002. The lower part

of the topsoil was allocated a separate context number partly because, despite the soil being the same, different charateristics were beginning to show; an even scatter of hammer scale was being encountered in 1001, but in 1002 its presence was already decreasing to the west of the expected line of the exterior west wall, and increasing to its east. Also, the soil to the west was distinctly more wet than that to the east. Small finds found in these contexts were consistently similar, including ceramic material, glass, and plastic which clearly related to the mid 20th century.

Beneath these contexts the trench quickly took on different characteristcs in various places. The first section of wall, 1005, was encountered, protruding from the south section in the position where the exterior west wall had been expected to lie. Beyond this, and going into the north section was a mixture of small stones and a mortar like material, fragmented, probably remnants of what was later identified as floor surface 1036 (see below), splitting the west third of the trench from the east. This western section was assigned a number, 1004, while most of the remaining part of the trench, which contained a greater concentration of pebbles and small stones, was assigned 1003, except for the south east corner, which was characterised by much greater amounts of small rubble within the soil matrix. This was assigned number 1006.

Excavation of 1003 quickly revealed a very hard surface (1009) emanating roughly from the north east corner, spreading out in a south easterly direction. This surface was highly magnetic and stained with corrosion. At first it was thought that this might be a floor, but the presence of numerous small metal finds, such as nails and screws and increased quantities of hammer scale suggested that this might only be a compacted accretion of metal debris of the kind to be expected in an area of concentrated metal working. This is very likely the "centuries of grime" covering the floor noted by Michael Rawlin as a child. Sue Clegg (*nee* Rawlin) recalled that as a child she remembered this area being very close to the location of the anvil.

As expected, context 1007 was succeeded by a section of wall which appeared to be a continuation of 1005, following the line of where the exterior west wall must have lain. However, the line was broken by the appearance of a new section of wall, 1010, lying at right angles to the other sections, splitting them but respecting the line of the western edge. The long axis of this wall lay east-west, with its eastern end disappearing under "surface" 1009, clearly indicating an earlier phase of activity in the building to that represented by 1009. No surviving witnesses remembered there being a wall in this position. Michael Rawlin however mentions that in their attempts to locate a secret tunnel, said to be a bolt-hole for local Catholics suffering persecution, he and his friends discovered that under the "grime" was a paved floor Rawlin 1999). It is possible that they inadvertently discovered wall 1010 before the archaeologists.

To the west of the wall sections, context 1004 gave way to a sandy clay subsoil layer (1011) mixed with considerable quantities of rubble. No architecture was found in this area, and deposits of hammer scale ceased, along with other metal finds. However, ceramic finds increased dramatically, with the richest haul of pottery of the trench coming from this context. 19th century wares were found in some quantity, but by far the greatest number of sherds dated to the 18th century, especially vernacular ware and Creamware. A single piece of late 15th or early 16th century pottery was also recovered. Below this was encountered natural undisturbed clay (1017), but the bottom of the western wall sections were not yet visible, indicating that the footings for these walls had been cut into the clay. A sondage, 0.5m wide,

was excavated along the edge of the walls. Bedrock was not encountered, but the bottom of the walls defined. This revealed that walls 1010 and 1018 (the wall going into the north section of the trench) were constructed to the same depth, but that 1005 was bedded in to a shallower depth (see plate 1, and elevation drawing 2). The construction of wall 1005 also appeared different, with smaller slabs being used in the construction of its outer faces, than those used for 1010 and 1018 (see plate 4, and final plan).

Plate 1, The outer face of the exterior west wall, looking east.

When the tops of the wall sections were cleaned it was also clear that mortar-like material survived on all walls (including wall 1013, but not wall 1031 in the eastern part of the trench (see below). However, what at first appeared to be mortar in some quantities on wall 1010, underlying surface 1009, was later shown to have a distinct and very sharply defined edge running the length of the wall (C. Merrony, pers. comm. See plates 2 and 3 below), but set back someway from the edge of the wall. It was clear that this could not be building mortar or pointing, but had been laid across the top of the wall (as it then was) against a structure or feature with a distinct edge, of which no trace survives. A close examination of the edge of this surface further revealed that part of this material had leaked or oozed under whatever structure had been there (see plate 3).

Plate 2, floor surface (1036) above the west end of wall 1010.

Plate 3, detail of plate 2

A sandy clay subsoil with rubble matrix (1015) was excavated from north of wall 1010, and a similar subsoil (1012), but darker, containing ash, was excavated from south of 1010. Ceramic sherds were recovered from both these contexts, but fewer than in context 1011. Metal finds also continued to be recovered. From 1012 was also excavated a cut, abutting wall 1005, containing two distinct fills in each half, to the same depth. The southern half, 1034, was a backfill of similar subsoil to that found above, but the northern half, 1033, consisted of black ashy material. The cut was made to accommodate a lead water pipe for a

tap, in situ at the end of the life of the building (S. Clegg, personal communication). Below 1012 was context 1021, differing to 1012 only in containing no ash. Rubble from this context seemed in slightly greater concentration against wall 1013, to the east, and seemed to partly underlie the bottom edge of it. Below context 1021 was natural undisturbed clay. The rubble of 1015, to the north of wall 1010, also seemed in greater concentration against the north side of that wall, and was also succeeded by natural clay.

The eastern end of the trench proved by far the most complicated to excavate and analyse. Below rubble context 1006, in the south east corner, lay two contexts; 1014 in the extreme corner consisting of the same clay sand subsoil found elsewhere, and to its immediate west 1013, another section of wall, similar in character to 1005. 1014 was mixed with considerable amounts of hammer scale, but few small finds. Further excavation revealed a cut, context 1035, which at this stage appeared to be a large diameter circular feature (see plate 4), disappearing into the east section of the trench, and truncated by walls 1013, 1010, and the unexcavated material beneath surface 1009. The material excavated from the top of the cut, fill 1022, consisted of a mix of almost pure hammer scale and globules of ferrous metal of small size and irregular shape. These appeared to be frozen lumps of molten waste and slag from metal working.

Plate 4, wall 1013(bottom left), context 1014(bottom right), cut 1035 with fill 1022(middle right), surface 1009 overlying wall 1010(top). Foot at top for scale.

It was decided at this point in order to determine, as best one can, the true extent and nature of cut 1035, which if truly circular would certainly underlie almost the whole of surface 1009, and investigate the possibility that further architecture might exist under 1009, that

surface 1009 must be removed down to natural. It quickly became clear that in fact cut 1035 abutted wall 1013, rather than being truncated by it, and that wall 1010 had in fact been partially cut through in order to accommodate 1035. The cut did not extend beyond the northern edge of wall 1010 however. Upon further excavation it also became clear that 1035 had been recut two or three times, each time enlarging the pit to accommodate more waste (see plates 5-6). Also, fill 1022 gave way to earlier deposits (1028) similar to 1022 but without the solid globules.

Plate 5, showing the east end of the trench. Cut 1035 has had fill 1022 removed, and most of 1028. Shallow cut 1029 is visible to the right of the picture, with wall context 1031 immediately to its left.

Plate 6, the bottom of cut 1035, dug into the surrounding natural clay, after the removal of subsoil contexts 1023 and fill 1028.

There was, or so it seemed at first, no more sections of wall beneath 1009, but a subsoil layer similar to those found elsewhere in the trench, but containing a great deal more rubble, including some substantial blocks. Beneath this was a shallow cut into the natural clay (context 1029, see plate 4), lying slightly beneath the level of context 1026 (the natural clay

deposit below context 1015, to the north of wall 1010).

The edge of this cut ran north-south, at right angles to wall 1010, and apparently lining up with the west edge of wall 1013 to the south of wall 1010 (see plate 4). This edge also met wall 1010 where two large blocks of masonry lay beneath 1010, apparently forming part of the east end of the wall, but in fact differing in their size, position, and configuration sufficiently to interpret them as an earlier phase of construction. These blocks (context 1031) protrude from the rest of the wall, and align in a slightly different direction, as can be seen in the final plan, and plate 8. They also lie in cut 1029, which no doubt form part of the footings for whatever structure they were part of. It is possible that cut 1029 extends beneath 1010, and beyond, under 1013, which would explain the presence of rubble at the bottom of that wall noted above.

Pottery finds from the east end of the trench were relatively few in number compared to the riches located elsewhere, but no less interesting; mostly 18th century in origin, as elsewhere, they include a well preserved clay pipe bowl, possibly 19th century in date, or a little earlier, a yellow ware jug base of 16th century or early 17th century date recovered from the base of cut 1029, and a large sherd of white salt glaze ware pottery, dating from the first quarter of the 18th century, found in context 1032, a thin lense of the same kind of subsoil and rubble noted in the rest of the trench, under the loose remnants of wall 1010 at the east end, where the wall had been chopped through in one of the expansions of cut 1035.

7. Artefacts

Large quantities of artefacts were recovered from this small trench. These consisted almost entirely of pottery and, not surprisingly, metal finds.

A full report of the ceramic assemblage, prepared by Chris Cumberpatch, and a similar report of the metallurgical material, prepared by myself, follows below, but a brief summary of the findings will be given here.

The disturbed topsoil contexts included a predictably mixed variety of finds, reflecting most periods of use at this site. The contexts immediately below these were characterized by sherds largely relating to the 18th and early 19th centuries. Most of the remaining contexts, including 1012, 1015, 1023, 1029 and 1032, contained sherds dating predominantly to the 18th century. The sequence thus suggests, along with the majority of the content, construction and remodeling phases for the building ranging from the mid 18th century to the early or mid 19th century.

Context 1011 contained by far the greatest concentration of pottery, relating to the 18th and early 19th centuries for the most part, but including a single sherd of *Midlands purple ware*, dating to the 16th or late 15th centuries.

Hammer scale was found in the topsoil and in those contexts immediately below. None was recovered below context 1004 in the western end of the trench. This area very likely lay outside of the main workshop as noted above, either as a yard area or annexe for the shoeing of horses. The absence of metals suggests that once backfilled, this context remained largely

undisturbed, unlike the interior of the building where, apart from the continual contamination of the surface due to the work going on, periodic disturbance due to remodeling of the building ensured the inclusion of metal in most contexts.

The greatest concentrations of small metal finds were associated with either the surface accretion 1009, or in the top of cut 1035 at the east end of the trench. This cut also contained the largest amount of hammerscale, enough to fill approximately four large plastic buckets.

Much of the metalliferous material recovered was heavily corroded, and embedded in concreted build up, making identification either difficult or impossible. However, considerable numbers of artifacts were identifiable, for the most part either as nails, or sections of rod or bar. The presence of this bar or rod like material, roughly compatible with the dimensions of many of the nails, suggests that the workshop was manufacturing this product.

Considerable quantities of slag was also recovered, suggestive of ore processing. However, it is more likely that this material is connected with smithing, or possibly even the conversion of cast iron to wrought iron (see below), and the fusion of fuel with waste molten material and possibly crucible material, accumulating in the work areas.

8. Discussion and conclusions

It is clear that this building underwent considerable changes during its life, including several periods of reconstruction or remodeling.

Above the earliest levels, represented by cut 1029 and wall 1031, are two walls, 1010 and 1018, which, to judge from their reasonably homogenous construction, particularly noticeable in the sondage in the west end of the trench, were constructed at the same time. Next, wall 1010 was demolished, and covered with a floor surface abutting a structure no longer in evidence, possibly constructed from a perishable material such as wood (C. Merrony, personal communication).

At some time, walls 1005 and 1013 were constructed, presumably after the modeling associated with the demolition of wall 1010, though in which order they were constructed is impossible to say on the evidence found thus far.

Finally, the debris accretion of surface 1009, and possibly the instalation of the water pipe, represent the final phase of activity in the working life of the building.

Cut 1035, a pit for the deposit of metalworking waste was cut and re-cut several times and the last re-cut seems to have truncated part of the former wall 1010. It would thus seem likely that those responsible for this were unaware of its existence, suggesting that a considerable gap in time separates the demolition of wall 1010 and its later truncation. The earliest phase of this cut seems to be perilously close to the earliest masonry, further suggesting that these features were beyond living memory at the time that the first cut here was made.

The contents of cut 1035 also changed as we have seen above, and it is known from the testimony of Mr. P. Dawson, who operated the bellows for the last blacksmith to work here, that the southern hearth was located very close to this feature, but that the northern hearth was no longer in use (in fact Mr Dawson does not recall its existence, although the chimney breast for the north hearth is clearly visible in the photograph of the smithy being demolished in 1958, and its impression still exists on the wall of the adjacent property).

Cumberpatch (see below), concludes that the ceramic assemblage firmly places the life of the building from the 18th century onwards. There is no doubt that the most intense period of activity currently provable in the archaeological record relates to that time, and that the few sherds of earlier pottery could be residual. There is also no, *prima facie,* reason why all the building and remodelling could not have occurred during a period of about 50-70 years.

The nature of the re-cutting of cut 1035, truncating earlier masonry as it does, suggests that this occurred some considerable time after the demolition of wall 1010, assuming that the workers did not know of its existence, and after the construction of wall 1013, which the later deposits of the cut abutt. In the lense of subsoil beneath remnants of wall 1010 came the sherd of *white salt glazed stoneware* dating roughly to the first half of the eighteenth century. The cut also cuts into subsoil containing 18th century sherds. A mid 19th century date for the later pit cutting and deposits would seem consistant with this activity, allowing time for wall 1010 to be constructed, demolished, and forgotten about.

If cut 1029 does run under walls 1010 and 1013, it is presumably earlier than the 18th century material with which they are associated, as would be wall 1031 which seems to have been the purpose for which the cut was made. This cut is from where the *yellow ware* sherd dating to the 17th century was recovered. It lay directly on the clay, not loose amongst the rubble from where the other finds here came. This matrix of soil and rubble did not differ from that above, which is clearly associated with walls 1010 and 1018. The sherd might not have been deposited at the same time as those mixed with the soil and rubble matrix. It is therefore possible that wall 1031 relates to a structure predating the 18th century, although it is not possible to be sure of this on the present evidence.

It is possible that the presence of large amounts of slag of mixed composition, in the context of a two hearth forge, is indicative of the fining and chafing of blooms in a "Walloon" bloomery (see discussion in appendix two). If true, this activity is not likely to have persisted long into the nineteenth century, and the chronological distribution of pottery would seem to support this interpretation.

In conclusion, we can say that this excavation has demonstrated that intense activity and development was carried on at this site, from at least as early as the mid 18th century, and possibly earlier. The nature of the ceramic assemblage, including a large amount of relatively high status pottery, suggests that at least some local people at this time were prosperous enough to express their status through material culture of a kind staking a claim to membership of the urbane middle classes.

9. Recommendations

Although the results of the excavations prove that vibrant activity was happening at Bolsterstone earlier than the basically 19th century character of the village might suggest, as many questions regarding the history of Bolsterstone have been raised as answered.

Why did the nature of the waste dumping in pit 1035 change, and could this be related to the use, and disuse, of the unexcavated north hearth?

What is the nature, and date of, the structure represented by wall 1031 and cut 1029?

Was there a bloomery at this site in the 18th century, as seems to be suggested by the slag, number of hearths, and chronological distribution of pottery?

Could this apparently earlier structure in some way relate to the buildings in the village field, thus suggesting continuity of settlement, rather than hiatus in the local sequence?

Further excavation is essential in order to answer these questions. This could include the reopening of the excavated trench, to remove the east end of wall 1010, and wall 1013 to determine if cut 1029 really does extend this far, and hopefully recover datable material. Excavation of the area immediately to the east could reveal more of this structure, if it survives, and associated small finds. A more secure date for this phase of the building could thus be determined.

Excavation of the area of the north hearth is also necessary to recover information which could shed light on the changing use of the building, indicated by the deposits in cut 1035. Excavation of the north hearth would also provide evidence concerning the suggested bloomery function of the forge.

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Loss of 300-year old forge upsets these villagers. Article in "The Star" newspaper dated june 26 1958.

Appendix 1

Pottery from excavations on the site of the Bolsterstone blacksmith's workshop and forge

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Introduction

The pottery assemblage from the site of the Bolsterstone blacksmith's workshop and forge was examined by the author on the 17th and 18th November 2008. It consisted of 291 sherds of pottery weighing 1501 grams representing a maximum of 271 vessels. The data are summarised in Table 1. The pottery assemblage was accompanied by fragments of clay tobacco pipe, some small pieces of salt glazed sewer pipe and other items. These are listed in Table 2. The abbreviations used in the tables are listed in Table 3.

The pottery

The earliest pottery from the site is represented by the sherd of *Midlands Purple ware* from context 1011 and a sherd of *Yellow ware* from context 1029. Both of these sherds appeared to be residual in later contexts as they were associated with pottery of a later date. The Midlands Purple ware sherd is probably somewhat earlier than the Yellow ware sherd, as indicated in Table 2.

The greater part of the assemblage is of 18th century date and includes examples of a wide range of wares typical of the period. Utilitarian wares are represented by the *Brown Glazed Coarsewares* (BGCW), *Brown Glazed Finewares* (BGFW) and the *Brown Salt Glazed Stonewares* (BSGSW). The first two mentioned are utilitarian earthenwares of types which are ubiquitous on 18th and 19th century sites in South Yorkshire (and more widely) and earlier versions of the same type are also found in 16th and 17th century contexts. Manufactured extremely widely, they are difficult to date precisely in part because of the lack of obvious change in style and form and because few of the potteries in which they were made have been excavated. The date ranges attributed to individual examples in Table 2 are based largely

upon the author's experience of such material on sites elsewhere in the county rather than on any specific definable characteristics. As such, they should be regarded as indicative rather than precise. The Brown Salt Glazed Stonewares are somewhat more readily datable but lack the precision possible from the formal and vernacular tablewares discussed below.

The two remaining categories of 18th century pottery are, firstly, the vernacular tablewares, so-called because of their continuity with 17th century types and, secondly, the formal tablewares. The formal tableware category covers the products of the factory-scale potteries established in the early to mid 18th century which were responsible for the wholesale transformation of the pottery industry and, eventually, the decline and virtual disappearance of the 'country potteries' and with them the tradition of vernacular tablewares. Country potteries were organised at a family level and appear to have operated as part of a 'dual economy' alongside farming or smallholding in a similar way to that documented for the metalwork trades (Hey 1969, 1972, Battye 1999, 2003). Their products include the *Slipware*, *Slip Coated ware*, *Late Blackware*, *Mottled ware* and *Redware* types, all of which were present in the Bolsterstone assemblage, as indicated in Table 1. Although a number of the country potteries survived through the 19th century and into the early 20th century, they largely ceased to produce tablewares in the latter part of the 18th century and early 19th century, moving instead to the manufacture of utilitarian wares. Country potteries existed throughout England and although some of the typical products (notably Slipwares) have been linked to Staffordshire and the London region specifically, it is clear from both documentary and archaeological data that manufacture was as widespread outside these areas as they were within them. For this reason, the terms 'Staffordshire Slipware' and 'Metropolitan Slipware', both of which remain in widespread use despite their inaccuracy, are regarded by the author as both obsolete and misleading and have not been used in this (or any other) report. Examples of country potteries in South Yorkshire include Bolsterstone, Midhope, Silkstone, Sheffield Manor and the first phase of activity at the Swinton (later Rockingham) Pottery (Cumberpatch 2004). Others are known to have existed in West Yorkshire and taken overall they represent an important, if often unacknowledged part of the industrial history of the two counties (see also Cumberpatch 2004). The relationship with post-medieval pottery manufacture lies partly in the persistence of the use of particular technologies, in the range of colours, decorative techniques and motifs which can be traced back to the post-medieval period (Cumberpatch 2003) and in the form of socio-economic organisation represented by the family-run, dual-economy potteries.

In contrast to the products of the country potteries, the 18th and early 19th century formal tablewares (*White Salt Glazed Stoneware*; c.1720 – c.1780, *Creamware*; c.1740 – c.1820, *Edged ware* (c.1810 – c.1830) and *Pearlware*; c.1780 – c.1840) are characterised by their radical departure from the characteristics of the earlier indigenous wares and represent the technological and stylistic response to imported porcelain and an advance on the easily damaged Tin Glazed Earthenware. The scarcity of White Salt Glazed Stonewares and the greater proportion of Creamware in the Bolsterstone assemblage suggest that that the activities represented on the site date to the middle and later part of the 18th century rather than the early to middle part of the century. The dating of the vernacular tablewares is less precise, but the documentary evidence indicates that they survived into the latter part of the century and so were contemporary with the White Salt Glazed Stonewares, the Creamwares and the earlier Pearlwares. It is probable that households who sought to acquire the new and fashionable formal tablewares continued to use the vernacular tablewares, but in an increasingly restricted range of contexts. It is clear from documentary accounts and historical research that formal tablewares played an important part in allowing upwardly mobile households to demonstrate their aspirations through the use of fashionable domestic pottery

and the adoption of fashions and patterns of behaviour which formed part of middle-class life (Johnson 1996, Kowaleski-Wallace 1997, Richards 1999). The quantities of such wares on the site suggest that at least one household in the village was wealthy enough to have bought and used such wares although how widespread this was, is not clear from the available evidence.

Wares dating to the 19th century include the *Cane Coloured* and *Slip Banded Cane Coloured (CC) wares* and the ubiquitous *Whitewares* and *Transfer printed (TP) Whitewares*. The Cane Coloured wares have a longer history than the latter and may be contemporary with the Pearlwares, but the latter follow the Pearlwares and are, indeed, often difficult to distinguish from them as the pale blue finish which defines the Pearlware category becomes much lighter during the 19th century while a small amount of bluing can often be seen on Whitewares, a result of the migration of colour from the transfer printed designs into the clear glaze during the firing. The small size of the transfer printed Whiteware sherds precluded the identification of the designs, but none appeared to be particularly unusual. The same was true of the transfer printed Pearlwares.

Other 19th century types present in smaller quantities include the *Blue Banded ware* and *Banded ware* and *Sponged ware*. Sponged ware is a form of Whiteware decorated with a sponge dipped in blue pigment. It dates from c.1830 and, like the longer-lived Banded wares was a popular and cheap form of decorated ware which is virtually ubiquitous on 19th century sites.

The small quantity of Stoneware is unusual as stonewares of various types was used widely during the 18th and 19th centuries, initially for tablewares but, during the late 18th and 19th centuries particularly for cooking wares (stew pots, souse pots, loaf pots, nappers etc; see Walter 1999), retail wares (jam and marmalade jars) and transport wares (bottles and flagons). Few of the Brown Salt Glazed Stonewares (BSGSW) were identifiable to vessel type but it is likely that most were cooking wares. The green glazed Stonewares included parts of a flagon and a bottle.

Two Whiteware balls were included in the pottery assemblage. One of these was complete and appeared to be a marble (context 1015) but the other, although fragmentary had originally been larger. It is possible that it was part of the game of 'knurr and spell' or pub cricket, popular in South Yorkshire and neighbouring mining areas in the late 18th and 19th centuries, although it was unglazed, unlike the normal knurr and spell balls.

The pottery and the site

The contexts identified during the excavation can, from the ceramic point of view, be divided into a number of groups.

Contexts 1001 and 1002 and possibly context 1022 produced mixed groups of material with sherds spanning the range of types seen on the site as a whole. These are perhaps best interpreted as later, disturbed contexts which included residual earlier material. The small size of the group from context 1022 makes it hazardous to associate it too closely with this mixed group as individual sherds, particularly when small in size, can and do move between contexts as a result of natural and animal-related processes. Context 1007 produced only one sherd but this was of a mid to later 19th century type (Sponged ware), suggesting that this context belongs with the later group.

Contexts 1003, 1004, 1005, 1006 and 1021 produced groups dominated by material of 18th and early 19th century date but which included small quantities (one or two sherds) of later pottery. Whether these contexts were affected by the intrusion of later sherds into generally earlier deposits or whether they were mixed groups in which later pottery was present in only small quantities for unknown reasons is difficult to determine from the pottery data alone.

The pottery from context 1011 included a substantial 18th to early 19th century group but with a small 19th century component (Blue Banded ware, Slip Banded Cane Coloured ware) which does not preclude a date in the early part of the 19th century. A small number of earlier, residual, sherds were also present in this context.

The groups of sherds from contexts 1012, 1015, 1023, 1029 and 1032 were homogeneous in character and dated predominantly from the 18th century with distinctively 19th century wares apparently absent. As discussed above, all of the distinctive classes of 18th century pottery were present although it is notable that the formal tablewares were considerably rarer than were the vernacular tablewares. To date it has not been possible to analyse a significant number of 18th century assemblages from South and West Yorkshire in any detail so as to be able to assess the details of the take-up of formal tablewares although evidence from sites such as Bolsterstone and Scholes Lodge Farm near Leeds (Cumberpatch 2006) suggest that there was a desire amongst the inhabitants of villages and smaller settlements to acquire the type of tablewares which were fashionable amongst the middle class and aspirant middle class families in the towns. Research on probate inventories might shed additional light on such matters but it is probable, given the vagaries of such documents in relation to pottery, that archaeology will remain the prime source of information on such matters.

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Table 1: Pottery

Context	Type	No	Wt	ENV	Part	Form	Decoration	Date range	Notes
1003	?Pearlware	1	1	1	BS	Hollow ware	U/Dec	?LC18th - EC19th	Heavily burnt
1029	?WSGSW	1	1	1	BS	Flatware	U/Dec	c.1720 - c.1780	
1001	Banded ware	1	16	1	BS	Hollow ware	Brown 'Rockingham' style int & ext with blue band ext	C19th	Probably part of a teapot
1002	BGCW	1	15	1	Base	Hollow ware	Brown glaze int only	C18th - EC19th	
1002	BGCW	1	1	1	BS	U/ID	Brown glaze on one side	C18th - C19th	Small abraded sherd
1003	BGCW	1	58	1	Base	U/ID	Brown glaze int only	C18th - C19th	Unusual white fabric
1003	BGCW	1	5	1	Base	Hollow ware	Brown glaze int	C18th	
1004	BGCW	1	29	1	BS	Pancheon	Brown glaze int only	C18th - C19th	
1004	BGCW	1	7	1	Base	Pancheon	Brown glaze int only	C18th - C19th	Unusual white fabric
1004	BGCW	1	6	1	BS	Pancheon	Brown glaze int	C18th - C19th	
1011	BGCW	1	13	1	Rim	Bowl/pancheon	Angular rim; limited glaze ext	C18th	Internal surface absent
1011	BGCW	1	19	1	Base	U/ID	Brown glaze int only	C18th - EC19th	Probably a pot disc
1015	BGCW	1	31	1	Rim	Pancheon	Brown glaze int only	C18th - C19th	Square sectioned rim with rounded angles
1015	BGCW	1	19	1	BS	Pancheon	Brown glaze int	C18th - C19th	
1015	BGCW	2	6	2	BS	Hollow ware	Brown glaze int only	C18th - EC19th	Black deposit ext
1023	BGCW	1	54	1	Rim	Jar	Brown glaze int	C18th - C19th	Collared rim with

									flat top and small everted lip
1023	BGCW	1	7	1	BS	Pancheon/bowl	Brown glaze int	C18th - C19th	
1001	BGFW	1	14	1	Base	Hollow ware	Glazed internally	C18th	
1003	BGFW	1	12	1	BS	Hollow ware	Brown glaze int & ext; shallow groove ext	C18th - EC19th	
1011	BGFW	3	25	3	BS	Hollow ware	Brown glaze int & ext	C18th - EC19th	
1011	BGFW	1	17	1	Base	Hollow ware	Brown glaze int only	C18th	
1011	BGFW	4	16	4	BS	Dish	Brown glaze int	C18th - EC19th	
1022	BGFW type	1	1	1	BS	U/ID	Brown glaze int & ext	C18th - EC19th	
1011	Blue Banded ware	1	4	1	BS	Hollow ware	Narrow blue bands on white ext	C19th	
1011	Blue Banded ware	1	2	1	BS	Hollow ware	Blue band ext	C19th	
1001	Bone China	1	2	1	BS	Hollow ware	Pinkish finish int & ext	M - LC19th	
1002	Bone China	1	1	1	Rim	Hollow ware	U/Dec	M - LC19th	
1005	Bone China	1	1	1	BS	Flatware	Traces of transfer printed floral/leaf design int & ext	LC19th	
1002	BSGSW	1	1	1	BS	Hollow ware	U/Dec	C18th - C19th	
1006	BSGSW	2	3	2	BS	Hollow ware	U/Dec	C18th - C19th	
1006	BSGSW	1	3	1	Rim	Bowl	U/Dec	C18th - C19th	Rounded clubbed rim
1011	BSGSW	1	6	1	Ring foot base	Hollow ware	U/Dec	C18th	
1011	BSGSW	2	4	2	BS	Hollow ware	U/Dec	C18th	
1012	BSGSW	1	5	1	BS	Hollow ware	U/Dec	C18th - C19th	
1001	Cane Coloured ware	2	10	2	Base & BS	Hollow ware	U/Dec	C19th	
1002	Cane Coloured ware	1	19	1	Ring foot base	Bowl	U/Dec	C19th	Rounded ring foot base
1002	Creamware	1	1	1	BS	Hollow ware	U/Dec	c.1740 - c.1820	Flaked
1003	Creamware	4	12	3	Rim	Plate	Beaded rim	c.1740 - c.1820	
1003	Creamware	5	11	1	Rim & BS	Bowl	U/Dec	c.1740 - c.1820	
1003	Creamware	2	5	1	BS	Plate	U/Dec	c.1740 - c.1820	
1003	Creamware	1	4	1	Recessed base	Hollow ware	U/Dec	c.1740 - c.1820	
1003	Creamware	5	2	5	BS	Hollow ware	U/Dec	c.1740 - c.1820	
1003	Creamware	2	4	2	BS	Flatware	U/Dec	c.1740 - c.1820	
1003	Creamware	1	1	1	Rim	Cup/bowl	U/Dec	c.1740 - c.1820	
1004	Creamware	2	5	1	BS	Plate	U/Dec	c.1740 - c.1820	
1004	Creamware	1	10	1	Ring foot base	Hollow ware	U/Dec	c.1740 - c.1820	Angular ring foot base

1004	Creamware	2	3	2	Rim	Plate	Beaded rim	c.1740 - c.1820	
1004	Creamware	2	2	2	BS	Hollow ware	U/Dec	c.1740 - c.1820	
1004	Creamware	4	5	4	BS	Hollow ware	U/Dec	c.1740 - c.1820	
1005	Creamware	1	2	1	Rim	Plate	Beaded rim	c.1740 - c.1820	
1005	Creamware	1	1	1	BS	Hollow ware	Fluted body ext	c.1740 - c.1820	
1011	Creamware	5	14	1	Rim	Plate	Beaded rim	c.1740 - c.1820	
1011	Creamware	8	7	8	Rim & BS	Flatware	Beaded rim; U/Dec body sherds	c.1740 - c.1820	
1011	Creamware	14	12	14	BS	Hollow ware	U/Dec	c.1740 - c.1820	Flaked and spalled sherds
1011	Creamware	2	2	1	Ring foot base	Cup/bowl	U/Dec	c.1740 - c.1820	
1011	Creamware	1	1	1	?Rim/base	U/ID	U/Dec	c.1740 - c.1820	Either a fine ring foot base or a vertical rim/neck
1011	Creamware	2	4	1	BS	Hollow ware	Part of a coloured band ext	c.1740 - c.1820	
1011	Creamware	1	2	1	Rim	Bowl	U/Dec	c.1740 - c.1820	
1011	Creamware	1	1	1	Ring foot base	Cup/bowl	U/Dec	c.1740 - c.1820	
1011	Creamware	1	3	1	Footring base	Cup/bowl	U/Dec	c.1740 - c.1820	Angular ring foot base
1011	Creamware	1	14	1	Rim	Carver/server	U/Dec	c.1740 - c.1820	Flaked
1012	Creamware	1	19	1	Rim	Bowl	U/Dec	c.1740 - c.1820	Large bowl
1012	Creamware	1	3	1	Rim	Cup/bowl	U/Dec	c.1740 - c.1820	
1015	Creamware	1	1	1	Rim	Hollow ware	Relief moulded feather pattern rim	c.1740 - c.1820	
1015	Creamware	2	4	1	Rim	Plate	Relief moulded looped-pendant design	c.1740 - c.1820	Beaded rim
1015	Creamware	1	4	1	BS	Flatware	U/Dec	c.1740 - c.1820	
1021	Creamware	1	1	1	BS	Hollow ware	U/Dec	c.1740 - c.1820	
1023	Creamware	2	2	1	BS	Hollow ware	U/Dec	c.1740 - c.1820	
1029	Creamware	1	2	1	Rim	Hollow ware	U/Dec	c.1740 - c.1820	
1029	Creamware	3	2	2	BS	Hollow ware	U/Dec	c.1740 - c.1820	
1003	Edged ware type	1	6	1	Rim	Bowl	Feather-edged paint on rim with raised pimples	EC19th	
1002	Fine Redware	1	1	1	BS	U/ID	Engine-turned decoration on one side	M/LC18th - C19th	
1001	Late Blackware	1	10	1	BS	Hollow ware	Dark glaze ext, mottled glaze int	C18th	
1001	Late Blackware	1	7	1	BS	Hollow ware	Black glaze int only	C18th	

1002	Late Blackware	3	5	3	BS	Hollow ware	Black glaze int & ext	C18th	
1011	Late Blackware	1	2	1	Handle	Hollow ware	Black glaze	C18th	Narrow oval handle
1015	Late Blackware	1	3	1	Handle	Hollow ware	Dark glaze all over	C18th	
1015	Late Blackware	2	7	2	BS	Hollow ware	Dark glaze int & ext	C18th	
1029	Late Blackware	1	4	1	Rim	Hollow ware	U/Dec	C18th	
1029	Late Blackware	2	33	1	Handle & BS	Hollow ware	Black glaze ext, black to dark yellow mottled int	C18th	
1029	Late Blackware	2	3	2	BS	Hollow ware	Black glaze int & ext	C18th	
1011	Late Blackware type	3	13	3	BS	Hollow ware	Dark glaze int & ext, partial on some sherds	C18th	
1011	Late Blackware type	2	7	2	BS	Hollow ware	Dark glaze ext, clear glaze int	C18th	
1012	Late Blackware type	1	1	1	BS	Bowl/dish	Black glaze int	C18th	
1011	Midlands Purple type	1	29	1	Handle	Hollow ware	Green-brown glaze ext	LC15th - C16th	Very hard, dense, semi-vitrified quartz tempered fabric
1002	Mottled ware	1	2	1	Rim	Jar	Mottled glaze int & ext	C18th	
1002	Mottled ware	1	1	1	BS	Hollow ware	Very dark mottled glaze ext, light mottled glaze int	C18th	
1003	Mottled ware	1	2	1	Base	Hollow ware	Dark mottled glaze int only	C18th	
1003	Mottled ware	1	4	1	BS	Hollow ware	Mottled glaze int & partially ext	C18th	
1003	Mottled ware	3	4	3	BS	Hollow ware	Mottled glaze int & ext	C18th	
1003	Mottled ware	1	1	1	Rim	Hollow ware	Mottled glaze int & ext	C18th	
1004	Mottled ware	7	19	7	BS	Hollow ware	Mottled glaze int & ext	C18th	
1011	Mottled ware	1	35	1	Base	Mug	Raised lines around body, footed base	C18th	Typical mottled ware mug base
1011	Mottled ware	1	4	1	BS	Hollow ware	Raised lines around body ext	C18th	
1011	Mottled ware	1	2	1	Rim	Hollow ware	Everted rim	C18th	
1011	Mottled ware	1	18	1	BS	Hollow ware	Mottled glaze int & partially ext	C18th	
1011	Mottled ware	8	19	8	BS	Hollow ware	Mottled glaze int & ext	C18th	
1011	Mottled ware	1	1	1	Rim	Hollow ware	Mottled glaze int & ext	C18th	Everted rim
1011	Mottled ware	1	5	1	Base	Hollow ware	Mottled glaze int	C18th	
1011	Mottled ware	2	11	2	Handle	Mug	Mottled glaze int & ext	C18th	
1012	Mottled ware	1	13	1	BS	Hollow ware	Mottled glaze int & partially ext	C18th	Pronounced rilling int

1012	Mottled ware	1	20	1	Base	Hollow ware	Mottled glaze int; unglazed lower body	C18th	Footed base
1015	Mottled ware	1	10	1	Rim	Bowl/dish	Mottled glaze int	C18th	Beaded rim
1015	Mottled ware	6	15	6	BS	Hollow ware	Dark mottled glaze int & ext	C18th	Mottling is highly variable
1015	Mottled ware	1	1	1	Rim	Dish	Dark mottled glaze int & ext	C18th	
1021	Mottled ware	1	3	1	Handle	Cup/mug	Dark mottled glaze	C18th	Narrow strap handle
1021	Mottled ware	2	3	2	BS	Hollow ware	Mottled glaze int & ext	C18th	
1003	Pearlware	1	1	1	Rim	Bowl	Hand painted design int; blue line inside rim, green leaf design	c.1780 - c.1840	
1003	Pearlware	1	2	1	BS	Hollow ware	U/Dec	c.1780 - c.1840	Flaked internally
1004	Pearlware	1	1	1	BS	Flatware	U/Dec	c.1780 - c.1840	
1004	Pearlware	2	8	2	BS	Hollow ware	U/Dec	c.1780 - c.1840	One flaked
1011	Pearlware	1	1	1	BS	Hollow ware	U/Dec	c.1780 - c.1840	Thin walled vessel
1011	Pearlware	1	1	1	Rim	Hollow ware	Blue line around rim	c.1780 - c.1840	
1003	Porcelain	1	2	1	Rim	Cup/bowl	U/Dec	LC18th - C19th	Plain white porcelain
1002	Redware type	1	11	1	BS	Hollow ware	Clear glaze int on a red body with possible red slip	C18th	
1011	Redware type	6	21	6	BS	Dish	Clear glaze int	C18th	Press moulded dish
1021	Redware type	1	2	1	BS	U/ID	Clear glaze int	C18th	
1004	Slip Banded CC ware	1	1	1	BS	Hollow ware	White slip lines ext on cane coloured body	C19th	
1004	Slip Banded CC ware	1	1	1	BS	Hollow ware	Dark slip band on cane coloured body	C19th	
1011	Slip Banded CC ware	4	7	4	BS	Hollow ware	White slip bands ext	C19th	
1011	Slip Banded CC ware	1	1	1	BS	Hollow ware	White slip line and brown slip line ext	C19th	
1006	Slip Coated ware	2	2	2	BS	Hollow ware	Red slip ext, one with clear glaze int	C18th	
1011	Slip Coated ware	2	4	2	BS	Hollow ware	Red slip ext on buff body; glazed int & ext	C18th	
1023	Slip Coated ware	1	4	1	BS	Hollow ware	Red slip int & ext on a buff body	C18th	
1023	Slip Coated	1	2	1	BS	Hollow ware	Red slip ext on buff body;	C18th	

	ware						glazed int & ext		
1002	Slipware	1	5	1	BS	Dish	Trailed white slip int	C18th	Press moulded dish
1003	Slipware	1	75	1	Rim	Dish/bowl	White on red slip int	C18th	Large dish; misfired glaze; streaky white fabric
1003	Slipware	1	33	1	Rim	Dish/bowl	White slip int	C18th	Large dish; misfired glaze; streaky white fabric
1004	Slipware	1	1	1	Rim	Dish/bowl	Pie crust rim with white slip int on a red body	C18th	
1011	Slipware	1	15	1	BS	Dish	White slip int under clear glaze; crazed on a red body	C18th	cf. sherds from context 1003
1011	Slipware	1	15	1	Rim	Dish	White slip int under clear glaze; misfired	C18th	cf. sherds from context 1003
1011	Slipware	2	6	2	Rim	Dish	Pie crust rim; Tri-coloured slip in, feathered	C18th	Press moulded dish
1011	Slipware	1	15	1	Rim	Dish	Tri-coloured slip; brown and red-brown on white	C18th	Press moulded dish; plain rim
1011	Slipware	3	23	2	Rim	Dish	Tri-coloured slip; white, pale brown and dark brown, feathered	C18th	Press moulded dish; plain rim
1011	Slipware	1	14	1	BS	Dish	Tri-coloured trailed slip; brown and black on white	C18th	Press moulded dish
1011	Slipware	1	22	1	BS	Dish	Banded slip int; red on white slip int	C18th	Press moulded dish; streaky red fabric
1011	Slipware	1	5	1	BS	Dish	Tri-coloured slip; red and black on white int	C18th	Press moulded dish
1011	Slipware	1	6	1	BS	Dish	Tri-coloured feathered slip; red-brown & brown on white	C18th	Press moulded dish
1011	Slipware	2	7	2	BS	Dish	White trailed wavy slip lines on thin red slip int	C18th	Press moulded dish
1012	Slipware	2	7	2	BS	Dish/plate	Tri-coloured linear slip design; red and brown on white int	C18th	Press moulded dish
1012	Slipware	1	2	1	BS	Dish/plate	White slip int	C18th	Press

							on red body, mottled glaze		moulded dish
1021	Slipware	1	8	1	Rim	Dish	Pie-crust rim; red slip on white slip int	C18th	Press moulded dish
1021	Slipware	1	2	1	Rim	Dish	Pie-crust rim; red slip int under clear glaze	C18th	Press moulded dish
1023	Slipware	2	13	1	BS	Dish	Tri-colour slip int; brown & green-brown on white	C18th	Press moulded dish
1023	Slipware	1	2	1	BS	Hollow ware	Trailed slip on a buff body under mottled glaze	C18th	Probably quite an elaborate decorative motif
1007	Sponged ware	1	2	1	Handle	Cup/jug	Blue sponging on oval handle	c.1830+	
1002	Stoneware	2	34	2	BS	Hollow ware	Green int & ext	C19th	
1003	Stoneware	1	69	1	BS & handle	Flagon	Green int & ext	C19th	
1011	Stoneware	1	2	1	BS	Bottle/flagon	Green int & ext	M - LC19th	
1003	TP Pearlware	1	1	1	BS	U/ID	Trace of blue design ext	c.1780 - c.1840	
1004	TP Pearlware	2	1	1	Rim	Cup/bowl	Dark blue TP design internally; U/ID design	c.1780 - c.1840	
1004	TP Pearlware	3	1	3	Rim & BS	Cup/bowl	U/ID TP design int	c.1780 - c.1840	
1011	TP Pearlware	2	1	2	BS	Cup/bowl	Unidentified Chinese landscape ext	c.1780 - c.1840	Thin walled vessel
1012	TP Pearlware	1	1	1	BS	Hollow ware	Transfer printed Chinese landscape ext	c.1780 - c.1840	
1021	TP Pearlware	1	1	1	Rim	Cup/bowl	Chinese landscape border int	c.1780 - c.1840	
1001	TP Whiteware	1	6	1	BS	Plate	U/ID TP design int only	M - LC19th	
1002	TP Whiteware	2	9	2	Footring base & BS	Plate	Traces of TP decoration; unidentified	M - LC19th	
1002	TP Whiteware	1	1	1	BS	Hollow ware	Transfer printed but blistered and unidentifiable	C19th	Secondarily burnt
1002	TP Whiteware	1	1	1	Rim	Plate	?Asiatic Pheasants	M - LC19th	
1002	TP Whiteware	1	1	1	BS	Flatware	U/ID TP landscape design int	M - LC19th	
1006	TP Whiteware	1	3	1	BS	Flatware	Red band int with rope or cable motif	M - LC19th	
1021	TP Whiteware	1	1	1	BS	Hollow ware	Vermicelli and dot pattern	M - LC19th	
1022	TP Whiteware	1	1	1	BS	Hollow ware	U/ID TP design int & ext	M - LC19th	
1001	Whiteware	1	1	1	Recessed base	Hollow ware	U/Dec	M - LC19th	
1001	Whiteware	1	4	1	BS	Hollow ware	Relief moulded ext	M - LC19th	

							with green-yellow glaze and gold detailing		
1002	Whiteware	2	3	2	BS	Hollow ware	U/Dec	M - LC19th	
1002	Whiteware	1	2	1	Rim	Plate	U/Dec	M - LC19th	
1004	Whiteware	1	1	1	BS	Hollow ware	Brown decoration on white body	C19th	Odd sherd
1006	Whiteware	1	1	1	BS	Flatware	U/Dec	M - LC19th	
1011	Whiteware ball	1	9	1	Profile	Whiteware ball	U/Dec	LC18th - C19th	Resembles a knurr ball but without glaze
1015	Whiteware ball	1	4	1	Complete	Marble	U/Dec	C18th - C19th	Small white unglazed ball; 13.7mm
1015	WSGSW	1	3	1	BS	Hollow ware	Applied decoration ext	c.1720 - c.1780	
1029	Yellow ware	1	25	1	Base	Hollow ware	Clear glaze int on a white body	C16th - C17th	
		285	**1461**	**265**					

Table 2: Other material

Context	Type	No	Wt	ENV	Part	Form	Decoration	Date range	Notes
1001	Clay tobacco pipe	1	1	1	Stem	Tobacco pipe	U/Dec	Undated	
1001	Sewer pipe	1	7	1	Fragment	Pipe	N/A	c.1850+	Brown salt glazed int & ext
1003	Clay tobacco pipe	3	4	3	Stem	Tobacco pipe	U/Dec	Undated	Plain stems
1004	Clay tobacco pipe	1	2	1	Stem	Tobacco pipe	U/Dec	Undated	
1004	Clay tobacco pipe	1	1	1	Stem	Tobacco pipe	N/A	Undated	Very thin pipe stem fragment
1006	Sewer pipe	2	5	2	Fragments	Pipe	N/A	c.1850+	Small frags of salt glazed pipes
1007	Clay tobacco pipe	1	3	1	Mouthpiece	Tobacco pipe	U/Dec	Undated	Rounded mouthpiece
1011	Clay tobacco pipe	2	3	1	Bowl	Tobacco pipe	U/Dec	Undated	
1015	Clay tobacco pipe	1	2	1	Stem	Tobacco pipe	U/Dec	Undated	
1015	Clay tobacco pipe	7	10	7	Stem	Tobacco pipe	U/Dec	Undated	
1022	Copper alloy	1	4	1	Fragment	N/A	N/A	Undated	

Table 3: Key

Abbreviation	
BGCW	Brown Glazed Coarseware
BGFW	Brown Glazed Fineware
BSGSW	Brown Salt Glazed Stoneware
ext	External
int	Internal
Slip Banded CC ware	Slip Banded Cane Coloured ware
TP	Transfer printed
U/Dec	Undecorated
U/ID	Unidentified
WSGSW	White Salt Glazed Stoneware

Appendix 2

Analysis of the Metallurgical assemblage

Introduction

Large quantities of metals and slag were recovered from the site under investigation. The material analysed weighed in at a total of 73.2882kg. A detailed summary of this material is given in table 1, consisting of 399 individual artefacts (including bags of hammer scale), in 282 cases.

The metal

A brief glance at table 1 will show that the vast majority of artefacts, unidentified as well as identified, contained ferrous material. This was detected by the use of a magnet. These magnetic specimens include much of the slag, which varied in the extent to which individual specimens were magnetised.

Of the non-ferrous examples some, such as case 24, photo 15), were clearly lead. They could be window lead, or in cases 226-228, recovered from context 1010, might belong to a modern vaccum cleaner bag (R. Doonan, pers. comm.). One case (225) was clearly the screw top to a hot water bottle, also recovered from context 1010, and was almost certainly manufactured from aluminium. The remaining non-ferrous artefacts were of copper, including a well preserved nail of similar design to those used in the repair of roof slates by modern builders.

Identifiable ferrous artefacts included hinges (case 4, from context 1001, and case 265, from context 1010), a nut and bolt (case 3, from context 1001), a screw (case 34, from context 1006), fragments of sheet metal, and a number of sections of bar or rod (plate 7). The overwhelming majority however were nails. They came in various lengths and thicknesses, but are mostly between 20-40mm long and are square shaped in section.

Plate 7, case 27 from table 1, rectilinear rod

It has been suggested that the nails might relate to the construction of the building rather than use in the business of the workshop (R. Doonan, pers.comm.). This is a plausible scenario, but several factors argue for a different interpretation. The cross sectional dimensions are broadly similar to those of the rod or bar excavated from the site, suggesting that the manufacture of these nails was one of the activities carried out. This is corroborated by the design of the nails, square in section, of the kind used in the shoeing of horses. An example of a horse shoe, with such a nail still attached, was recovered from the site on the surface by W. Goodhind some years ago. Some curvilinear fragments of metal recovered during the excavation might also have been remnants of horse shoe.

A major artefact type to be recovered from the site was hammer scale. This material was recovered from the soil by the use of a magnet, and was not otherwise discernible in most contexts. It was randomly sampled from contexts 1001, 1002, 1003, 1006, and 1010. In addition, a particularly high concentration was recovered in large quantities from context 1022, in cut 1035, along with highly magnetized irregular pieces of indeterminate nature (case 216, table 5), and slag (see below). Confirmation that the gritty magnetic material recovered was hammer scale came after detailed examination took place upon completion of graded wet sieving of the material (plate 8). Curiously, hammer scale was entirely absent in the west end of the trench below the topsoil layers 1001 and 1002. However, this area lies outside of the main workshop, and as such, this absence reflects the different character of use in this part of the site.

Plate 8, Hammer scale recovered from context 1022

Slag was recovered from contexts 1002, 1003, 1006, 1010, 1011, and 1022. The specimens ranged from non-magnetic to highly magnetic, in an apparently random distribution. More of the non-magnetic versions were recovered from context 1022 than elsewhere, but more was recovered overall from this context, so this should not be regarded as significant.

Slag is often regarded as being a by-product of ore processing, but the processing of ores at a small village smithy in the 18th century is probably an unlikely prospect (R. Doonan, pers. comm.).

A specimen of slag from context 1022 was sectioned and examined metalographically to see what light could be shed on associated activities. A variety of phases were present, including dendritic phases diagnostic of iron or steel working (plate 9), and other angular structural non-metallic components (plates 10-11). However, without scanning electron microscopy/energy dispersive spectroscopy analysis, and other compositional analysis, sadly beyond the resources of the present author, little more can be said (P. Kapranos, pers. comm.).

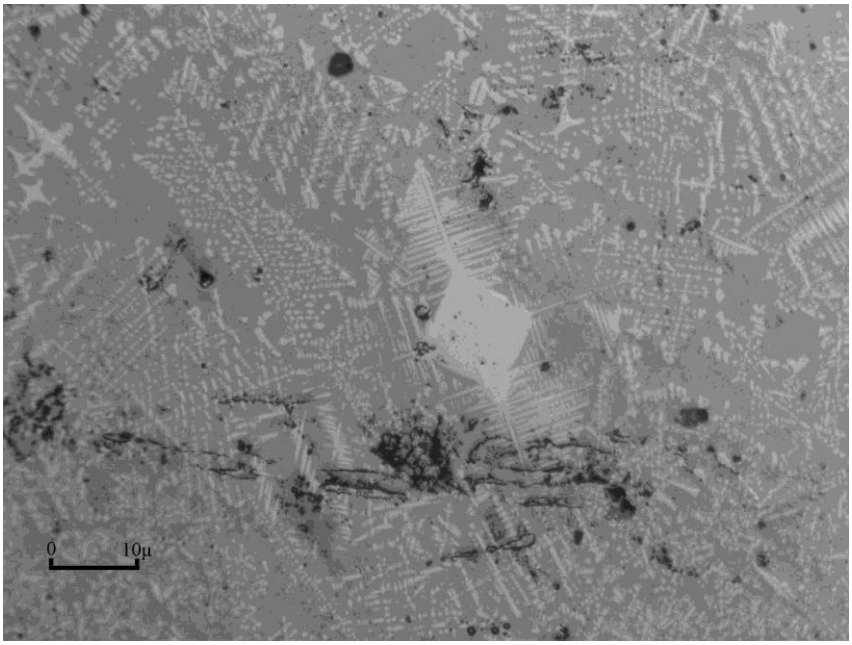


Plate 9, pores, and dendritic microstructure of slag specimen

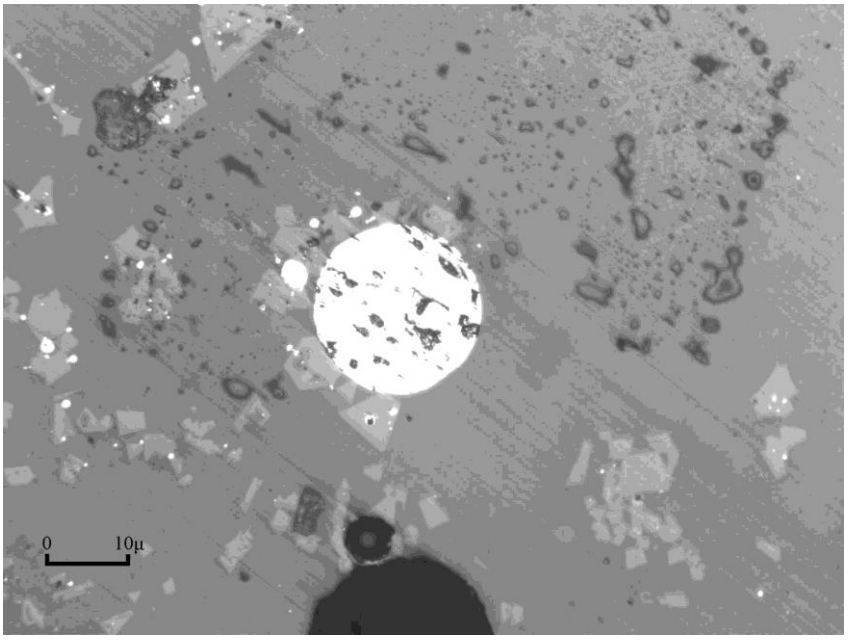


Plate 10, area of slag specimen showing angular and spheroidal particles, and more dendrites

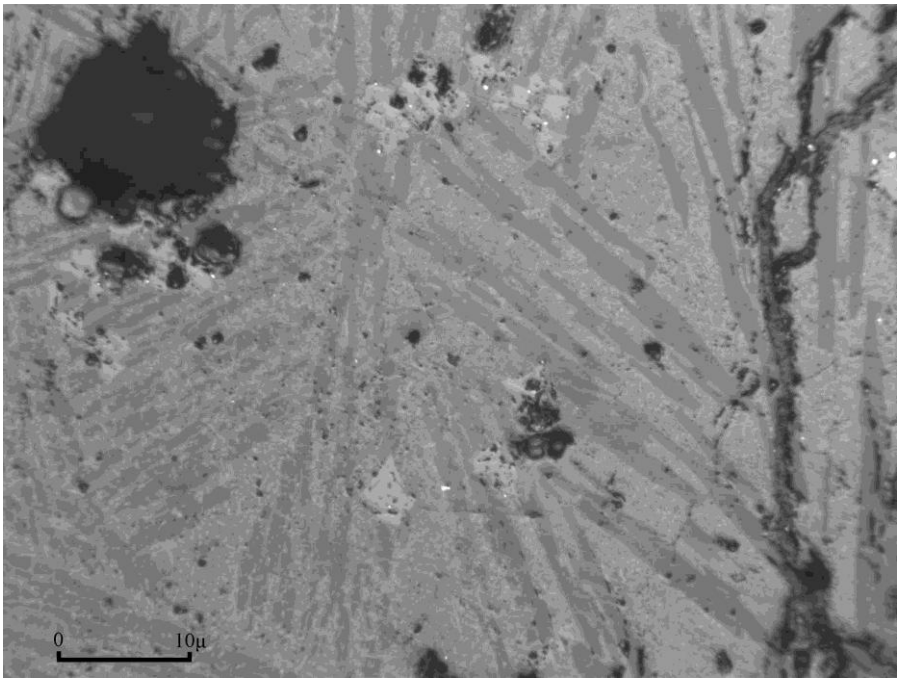


Plate 11, rectilinear microstructure of slag specimen

More information could be extracted from the assemblage if X-ray facilities had been available to penetrate the heavily concreted specimens. Many of the unidentifiable pieces would probably have yielded artefacts, had this equipment been available, and more detailed information could have been extracted from the identified artefacts. Nevertheless, the overall interpretation about the kinds of activities carried on at this site is unlikely to be affected by this lack of X-ray facilities.

The assemblage in context

An even scatter of the above material was distributed in contexts 1001-1004. Below this, areas of the site became defined by the types and concentrations of material recovered. As stated above, hammer scale was subsequently only recovered from within the workshop, occupying the eastern two thirds of the site, and a clear deposit of this material was dumped in context 1035, a series of cuts and re-cuts at the east end of the trench. More artefacts were recovered from that general area too, and in the adjacent contexts 1009, an accretion of magnetized debris, and in wall 1010, directly underlying part of 1009. The area defined by these contexts is thus likely to have been at or close to the most important area of metal working.

This area is known to have been very close to the location of both the anvil and the southern hearth as they existed in the last phase of the building's existence (S. Clegg; P. Dawson, pers. comm.). It is also claimed that a northern hearth existed (Rawlin 1999), which seems to be corroborated by the outline of its chimney stack, still visible at the northern end of the former building (plate 12 below).

To judge from the pottery, the most dynamic period of activity at this site relates to the 18th century and beginning of the 19th century (Cumberpatch 2009, see above). On the basis of the above, including the presence of considerable quantities of slag, it could be argued that at this time, and possibly earlier, the workshop and forge functioned as a small bloomery. Bloomeries, designed for the conversion of small "blooms" of cast iron into the more generally useful wrought iron, are known to have continued to be established in the north of England as late as 1700 (Tylcote 1987: 338). They continued in use into the nineteenth century (Tylcote 1987: 338), despite being superseded in the 18th century by technological advances. In Britain, two hearth "Walloon" bloomeries, consisting of a finery and a chafery, were the standard design (Tylcote 1992: 102).

Plate 12, north end of the main building, and marked out trench in the foreground.

The "bloomery" explanation would account for the presence of two hearths and the slag, considerable quantities of which were generated during the process of conversion from cast to wrought iron. The decline in the presence of sherds at the site from the early nineteenth century onwards broadly conforms with the decline in the fortunes of bloomery forges.

References

Cumberpatch, C. 2009. *Pottery from excavations on the site of the Bolsterstone blacksmith's workshop and forge.* Unpublished pottery report.

Tylcote, R. 1987. *The early history of metallurgy in Europe.* New York: Longman inc.

Tylcote, R. 1992. *A history of metallurgy.* Brookfield: The Institute of Materials.

Rawlin. M. 1999. *Pennine Harvest.* Unpublished memoirs.

Table 1

Case	Bag	Length	Depth	Width	Fe	Cu	L	Other	Weight (grams)	Context	Type	Photo number	Notes
1	16				/				34.33	1001	Hammerscale		
2	13	71.5	17.5		/				18.75	1001		1	
3	13	83	6.9		/				26.74	1001	Nut and Bolt	2	Fused together
4	13	80	6.8	32.9, 45	/				67.43	1001	Hinge?	3	
5	13	19	15		/				2.12	1001			Fragment
6	13	42		5, 12	/				5.39	1001	Nail	4	
7	18				/				12.2	1003	Hammerscale		
8	15				/				20.9	1002	Hammerscale		
9	7	34	24					/	24.85	1002	Slag	5,7	cases 9-11 single photo
10	7	42	6		/				9.56	1002	Slag		
11	7	8	15		/				3.95	1002	Slag		
12	6	149	7		/				28.65	1002	Rod	6	
13	6	55	13	48	/				62.65	1002	Eye bolt	7	
14	6	50	10		/				11.93	1002	Hook or nail	8	Bent. Fragment
15	6	92			/				5.99	1002	Nail, bent	9	
16	6	42	5	3	/				3,36	1002	Nail	10	Square section
17	6	31.5	7	4.5	/				5.28	1002	Nail	11	Square section. Fragment
18	6	42	27		/				13.25	1002	Slag		
19	6	60	3		/				19.41	1002	?	12	Rhomboid disc
20	6	48	7	5	/				6.71	1002	Nail	13	Square section
21	6	44	12		/				10.36	1002	?		
22	6		24.5	8	/				8.53	1002	?		
23	6	53	3.5		/				3.44	1002	Nail	14	
24	6	25.3	3		/				0.65	1002	Sheathing?	15	
25	6	44	4, 2	20	/				14	1002	Blade frag	16	possible horse shoe frag.
26	6	61.2	9	6	/				12.02	1002	Nail	17	Square section
27	6	65	8		/				23.21	1002	Rod	18	
28	6	42.5	4	6	/				4.51	1002	Nail	19	Square section
29	6	32	5.5		/				1.94	1002	Nail	20	Square section
30	6	31.5	5	13	/				6.2	1002	?	21	
31	6	39	8	24	/				16.42	1002	?	22	
32	6	25	10		/				10.6	1002	Rod	23	Fragment
33	6	32	8	20	/				6.84	1002	?		

34	6	27	10	14	/				8	1002	?		
35	6		18		/				4.76	1002	?		
36	6	15	8	8	/				3.08	1002	?		
37	6	19	12		/				3.5	1002	Slag		
38	6	26.5	4		/				2.48	1002	Nail	24	
39	6		13		/				4.24	1002	slag		
40	6		13		/				2.65	1002	?		
41	28	52	34		/				2.64	1003	Nail	25	Head dia 7.2mm
42	28	83	6	6	/				11.61	1003	Nail	26	Square section
43	28	70	6		/				9.34	1003	Nail	27	
44	28	53	7		/				10.32	1003	Nail		
45	28	45	12	27	/				23.5	1003	?	28	
46	2	118.5	9	19.8	/				77.2	1003	Bar	29	
47	2	59.2	6	15.5	/				16.08	1003	?	30	
48	2	35.5	4.5		/				3.43	1003	Nail	31	
49	2	45	6.2		/				9	1003	Nail	32	
50	2	30	3		/				3.12	1003	Nail	33	
51	2	48.2	10		/				10.42	1003	Bar	34	
52	2	54.9	12		/				13.2	1003	Bar	35	
53	2	31.1	17		/				17.54	1003	?		
54	2	29	3.8		/				0.92	1003	Nail	36	
55	2	39.8	4.5		/				5.11	1003	Nail	37	
56	2	31	23	15	/				13.23	1003	?		
57	2	30	6		/				1.51	1003	Nail	38	
58	2	26.5	7		/				2.35	1003	Nail	39	
59	2	46	4.8		/				2.89	1003	Nail	40	
60	2	23	15	28	/				7.23	1003	?		
61	2	29	4.5		/				3.37	1003	Nail	41	
62	2	27.5	9.8	25	/				9.01	1003	?		
63	2	34	20		/				30.23	1003	?		
64	2	27	3.6		/				0.71	1003	Nail	42	
65	2	21	6		/				1.57	1003	Hook	43	
66	2	39	13	18	/				11.01	1003	?		
67	2	33	6		/				4.42	1003	Key frag.	44	
68	2	27	13.5		/				14.27	1003	?		
69	2	31	12		/				4	1003	Slag		
70	2		15		/				8.2	1003	?		
71	2	24.5	10		/				4.95	1003	Slag		
72	2	29	7		/				6.94	1003	?		
73	2	22	15		/				6.06	1003	?		
74	2	24.5	19		/				7.01	1003	?		
75	2	21	12	17	/				6.65	1003	?		
76	2		20	10	/				3.8	1003	?		
77	2		11.5		/				2.03	1003	Slag		
78	2	17.9	11		/				3.7	1003	?		
79	2	19	15		/				1.84	1003	?		
80	2		12.6		/				3.44	1003	?		
81	2	17	6.3		/				1.45	1003	?		
82	2		11		/				1.55	1003	?		
83	2		15		/				1.48	1003	?		
84	30	66.5	7.8		/				10.37	1004	Nail	45	Square section
85	30	57.4	5.5		/				4.49	1004	Nail	46	
86	30	38	10.5		/				5.66	1004	Bar	47	
87	9	41.4	5.5		/				5.11	1004	Nail	48	
88	9	83	5		/				18.94	1004	Nail	49	

89	8					/			6.35	1004	Copper wire	50	string, 5-6 strands
90	27	40	6		/				3.58	1004	Nail	51	
91	5		22.5					/	9.87	1011	?	52	91-93 on same photo
92	5	75.5	42					/	89.44	1011	?		
93	5	40	15					/	7.84	1011	?		
94	4	65	5.5		/				10	1011	Nail	53	
95	4	40.5	11		/				10.93	1011	Slag		
96	4	31.5	6		/				3.92	1011	Nail	54	
97	4	32.9	4.5		/				4.58	1011	Nail	55	
98	4	35	4		/				4.18	1011	Nail	56	
99	4	29	11	24	/				26.17	1011	Bar frag.	57	
100	4	30	8		/				6.1	1011	Nail	58	square section, large head
101	4	31.5	6.3		/				2.71	1011	Nail	59	
102	4		32.5					/	22.51	1011	?	60	
103	4		14					/	4.1	1011	?		
104	4		21.2					/	8.48	1011	?		
105	4		20		/				7.42	1011	?		
106	4	19	8.3		/				2.43	1011	?		
107	4	40	23		/				26.9	1011	?		
108	4	22.8	4.5		/				1.44	1011	?		
109	1	39.2	20		/				9.58	1007	?		
110	1	33	13		/				20.54	1007	?		
111	1		13		/				4.75	1007	?		
112	1	41	4.3		/				4.2	1007	Nail	61	
113	1	35	5.5		/				1.83	1007	Nail	62	
114	1	51	12		/				11.5	1007	Bar/nail	63	
115	1	45	19	18	/				11.25	1007	?		
116	1	48	1.2	19	/				23.98	1007	?		
117	1	28.8	4.5		/				3.41	1007	Nail	64	
118	1	33.2	7		/				2.91	1007	Nail	65	
119	1	28	11.8		/				8.15	1007	?		
120	1	32.2	7.3	11.5	/				8.94	1007	?		
121	1	45	15	7.5	/				12.1	1007	Bar		square section
122	1	32	45	7	/				6.35	1007	Nail	66	
123	1	42	7.5	17	/				8.62	1007	?		
124	1	40.5	22	14	/				22.74	1007	?		
125	1	42.5	5		/				6.07	1007	?		
126	1	25.5	6		/				2.56	1007	?		
127	1	25	10		/				6.38	1007	?		
128	1	44	14		/				7.8	1007	?		
129	1	21	16		/				9.57	1007	?		
130	1	24	12		/				3.88	1007	?		
131	1	20	9		/				3.1	1007	?		
132	1	25	16		/				13.16	1007	?		
133	34	28	8		/				3.68	1005	Nail	67	
134	34		23		/				2.67	1005	?		
135	24	43	5		/				4.9	1018	Nail	68	
136	24	108	7.5				/		10.54	1018	Sheathing?	69	window lead
137	10	210	2.4		/				15.74	1015	Rod	70	bent.
138	10	60	8		/				30.2	1015	Nail	71	Heavily

													concreted
139	10	29	4			/			4.29	1015	Roof nail	72	Head dia .11mm
140	10	72	16	10	/				23.34	1015	Hook	73	
141	10	46.8	5	3	/				5.66	1015	Nail	74	square section
142	10	50	41	12.8	/				59.1	1015	?	75	
143	10	43.5	11.8	5	/				10	1015	Sheet metal	76	fragment
144	10	36	4		/				2.8	1015	Nail	77	Head dia .11mm
145	10	43.5	5		/				3.67	1015	Nail	78	
146	10	48.5	9.5		/				17	1015	Bar frag.	79	
147	10	23	5.5		/				3.62	1015	Nail	80	head, dia. 13mm
148	11	63	31		/				90.6	1022	Slag	81	
149	25	64			/				246.1	1022	Hammerscale		
150	14	65	38	6	/				5.95	1022	Nail	82	
151	14	40	8		/				4.64	1022	Nail	83	
152	14	18	20	9	/				13.15	1022	Nut	84	Square
153	14	24.3	8.3		/				3.1	1022	Nail		Fragment
154	14	8.8	4		/				3.26	1022	Nail	85	Head, dia. 10mm
155	14		10 to 15		/				54.3	1022	?		8 Frags.
156	33	53	5		/				7.74	1022	Nail	86	Head dia. 13mm
157	33	53	4		/				5.82	1022	Nail	87	Square section
158	33	38	6		/				3.98	1022	Nail	88	
159	33	44	8	8	/				13.53	1022	Nail	89	Square section
160	33	42	5.5	4.5	/				15.44	1022	Nail	90	concretion to head
161	33	22	3	20	/				8.41	1022	Sheet metal	91	Fused with concretion
162	33	29	3	5	/				1.13	1022	Nail	92	Flat
163	33	33	5	33	/				12.12	1022	Spacer	93	Flat packing piece?
164	33	38	5		/				3.32	1022	Nail	94	
165	33	43	5		/				4.13	1022	Nail	95	
166	33	40.8	9		/				5.26	1022	Nail	96	
167	33	41	5	5	/				7.02	1022	Nail	97	Square section
168	33	15	9	20	/				3.07	1022	Slag		
169	33	58	5		/				21.6	1022	Nail	98	Heavily concreted
170	33	39	5		/				4.82	1022	Nail	99	
171	33	37	5		/				1.71	1022	Nail	100	
172	33	27	4		/				3.16	1022	Sheathing?		Hollow, concreted
173	33	37	6		/				6.66	1022	Nail	101	
174	33	25	6		/				1.4	1022	Nail	102	

175	33	25	6		/				2.14	1022	Nail	103	
176	33		12		/				5.43	1022	Slag	104	
177	33	36	6		/				8.78	1022	Hook	105	Poss. bent nail
178	33	40	6		/				10.84	1022	Nail	106	Heavily concreted
179	33	46.5	6		/				7.45	1022	Nail	107	
180	33	45	7		/				12.14	1022	Nail	108	Non magnetic
181	33		20	2.5				/	1.06	1022	?		
182	33	41.8	5.5		/				7.79	1022	Nail	109	
183	33		18		/				5.9	1022	Slag		
184	33	27		4				/	0.8	1022	Slag	110	Non magnetic
185	33	23	5		/				1.7	1022	Nail	111	Fragment
186	33	18		12				/	1.28	1022	Slag		Non magnetic
187	33	27	5		/				2.07	1022	Nail	112	
188	33	42	8		/				17.72	1022	Nail	113	Concrete d
189	33		18					/	14.4	1022	Slag		
190	33	28	9.7	22	/				9	1022	?		
191	33		10		/				2.92	1022	Slag		
192	33	40	18					/	16.9	1022	Slag		
193	33	30	15		/				10.28	1022	Slag		
194	33		12					/	1.23	1022	Slag		
195	33	21		15	/				5.68	1022	?		
196	33	25	6		/				2.38	1022	Nail		
197	33	45	12					/	14.4	1022	Slag		
198	33		14					/	3.9	1022	Slag		
199	33	32	12					/	6.2	1022	Slag		
200	33	23	15					/	3.7	1022	Slag		
201	31		20 to 40		/				736	1022	?		97 irregular shaped pieces
202	32		20 to 80					/	720	1022	Slag		15 irregular shaped pieces
203	32	51	6	30	/				27.7	1022	Hook	114	
204	32	91	5	22	/				53.05	1022	Metal strip	115	
205	32	38	4		/				2.2	1022	Nail	116	
206	32	93	18	25	/				204.9	1022	Bar	117	
207	32	94	8		/				38.98	1022	Bar	118	
208	32	50	4.5		/				10.28	1022	Nail	119	
209	32	42	6		/				11	1022	Nail	120	
210	32	38	7		/				6.05	1022	Nail	121	
211	32	27	8	17	/				15.11	1022	Metal strip	122	Rim, or horse shoe
212	32	47	6		/				8.9	1022	Nail	123	
213	32	34	7.5		/				3.56	1022	Nail	124	
214	32		25					/	9.27	1022	Slag		
215	32	25	8	15				/	1.31	1022	Slag		
216	32		10 to 40		/				1320	1022	?	125	Irregular magnetis ed pieces

217	33				/				12.84	1010	Hammersc ale		
218	23	50	5		/				4.3	1010	Nail	126	Square sec. Head dia. 7mm
219	23	30	15					/	11.86	1010	Slag		
220	23	31	6		/				4.87	1010	Nail		
221	23	40	14		/				18.1	1010	?		
222	23	28	16		/				19.1	1010	?		
223	23	29	6		/				3.79	1010	Nail	127	
224	19		10		/				1.57	1010	Slag		
225	19	45						/	18.63	1010	Screw top	128	Hot water bottle
226	19	63	3				/		6.53	1010	Sheathing	129	
227	19	70	3				/		7.04	1010	Sheathing	130	
228	35	71	3				/		6.81	1010	Sheathing	131	
229	35		27.8	11				/	7.32	1006	Slag		
230	20	17	13	9				/	1.7	1006	Slag		
231	36	20	3		/				0.65	1006	Nail	132	
232	12				/				6.37	1006	Hammersc ale		
233	12	45.9	6		/				5.98	1006	Nail	133	
234	12	42.5	5		/				6.88	1006	Screw	134	
235	12	45	3.9		/				1.93	1006	Nail	135	
236	12	32	13		/				9.71	1006	?		
237	12	47	8	9	/				7.05	1006	Bar	136	Square section
238	12	25	5		/				1.03	1006	Nail	137	
239	12	57	4	7.5	/				25.44	1006	Nail	138	Heavily concreted
240	12	30.8	9.5	4.5				/	2.76	1006	?	139	
241	21	23	8		/				3.74	1006	Nail	140	Square section, head
242	21	41	2	2		/			2.02	1006	Nail	141	Square section, copper
243	21	35	4	5	/				4.73	1006	Nail	142	Square section, top half
244	21	24	11	17	/				13.16	1006	Bar frag.	143	
245	29	22	18		/				2.66	1006	?		
246	29	50	16	47	/				74.76	1014	Insert	144	Triangular, recessed lip
247	22	42	65	9.5	/				4.93	1014	?		Rectilinear
248	22	55	5	9.5	/				22.35	1009	Nail	145	Large, bent. Poss. hook
249	22	64	13	48	/				56.58	1009	Debris		Concretion
250	22	24	9	15				/	3.55	1009	Metal run	146	Frozen liquid run, or tap slag

251	22	44	19	32	/				49.68	1009	Concretion		
252	22	32	20	20	/				30.64	1009	Concretion		
253	22				/				141.46	1009	Concretion		9 pieces, 10-20mm dia.
254	22	58	5		/				17	1009	Nail	147	
255	22	51	10	23	/				25.23	1009	Waste metal	148	Irregular shaped iron lump
256	22	26	15	23	/				25.63	1009	Iron wedge	149	
257	22	38	5	7	/				6.02	1009	Nail	150	Heavily concreted
258	22	20	11	10	/				10.61	1009	?	151	
259	22	54	8	4	/				9.55	1009	Bar	152	Rectiline ar, nail blank mat.?
260	22	94	12	9	/				38.09	1009	Bar	153	Rectiline ar, nail blank mat.?
261	22	46	10	10	/				13.87	1009	Bar	154	Rectiline ar, nail blank mat.?
262	36	35	11	11	/				7.48	1029	Bar	155	Rectiline ar, nail blank mat.?
263	3				/				47.42	1010	Lumps		Irregular shaped pieces
264	3	82	5		/				13.5	1010	Nail	156	
265	3	90	11	38	/				210.3	1010	Door hinge	157	
266	3	85	10	10	/				51.27	1010	Bar	158	Rectiline ar, nail blank mat.?
267	3	54	5	3.5	/				5.79	1010	Nail	159	Square section
268	3	49	5	4	/				8.5	1010	Nail	160	Square section
269	3	35	7	5	/				4.56	1010	Nail	161	
270	3	35	7	5	/				6.28	1010	Nail	162	
271	3	49	4.9	5.2	/				5.65	1010	Nail	163	
272	3	31.5	5	17	/				15.35	1010	Foot and leg	164	Frag. of bench leg?
273	3	49.5	9	7	/				13.59	1010	Bar	165	Rectiline ar, nail blank mat.?
274	3	34	7	4	/				4.62	1010	Nail	166	
275	3	54	7	4	/				11.87	1010	Nail	167	
276	3	32	6	4	/				4.51	1010	Nail	168	
277	3	45	7		/				9.5	1010	Nail	169	
278	3	32	9	6	/				4.37	1010	Nail	170	
279	3		21					/	7.7	1010	Slag		
280	3	35	15	12	/				11.1	1010	?		

281	3	32	27	9	/				14.78	1010	?		
282	3	20	12	8	/				4.67	1010	Waste metal		

Appendix 3

Plans and sections

Plan prior to excavation of contexts 1023 and 1032

Final plan

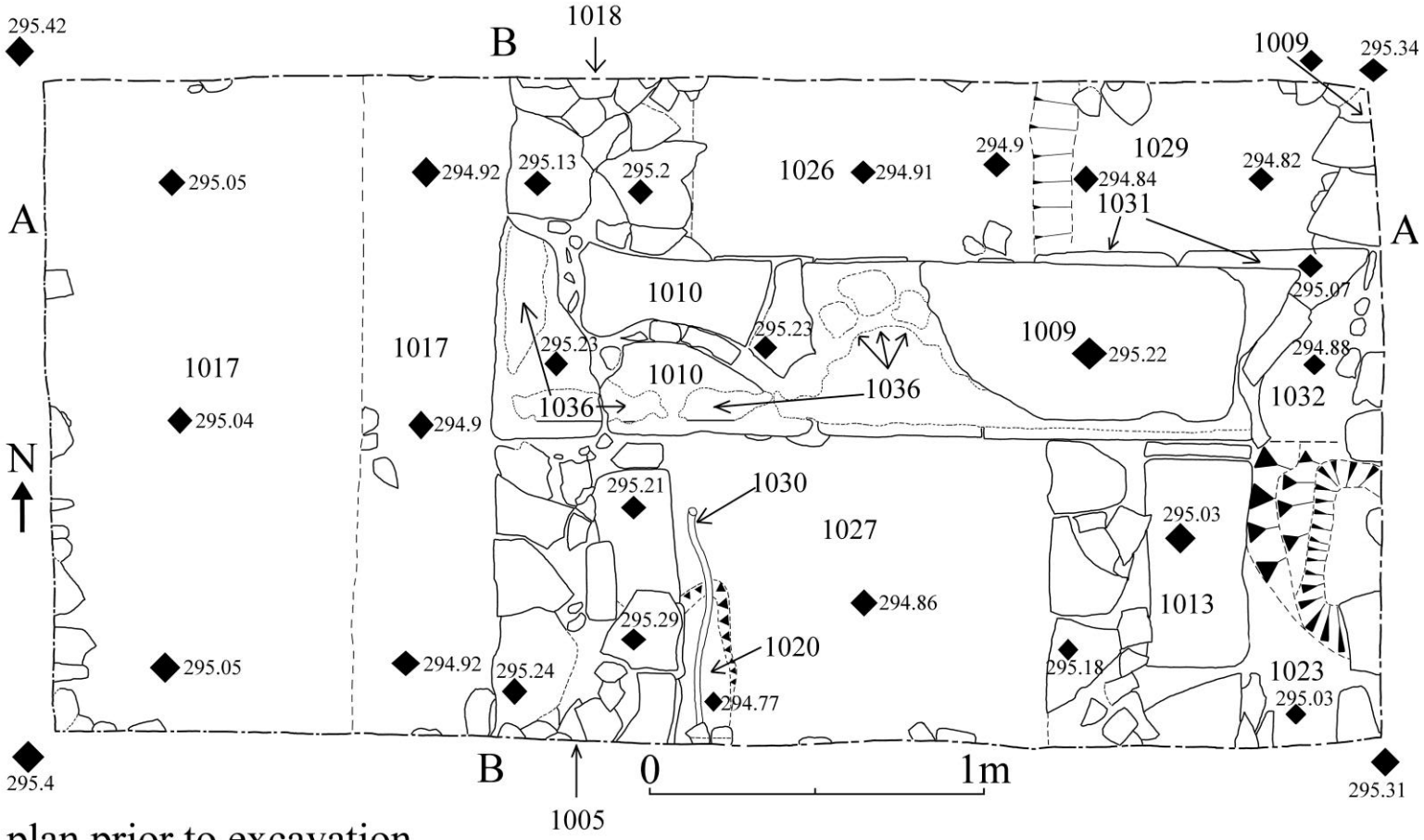
North section

South section

East section

Elevation A-A

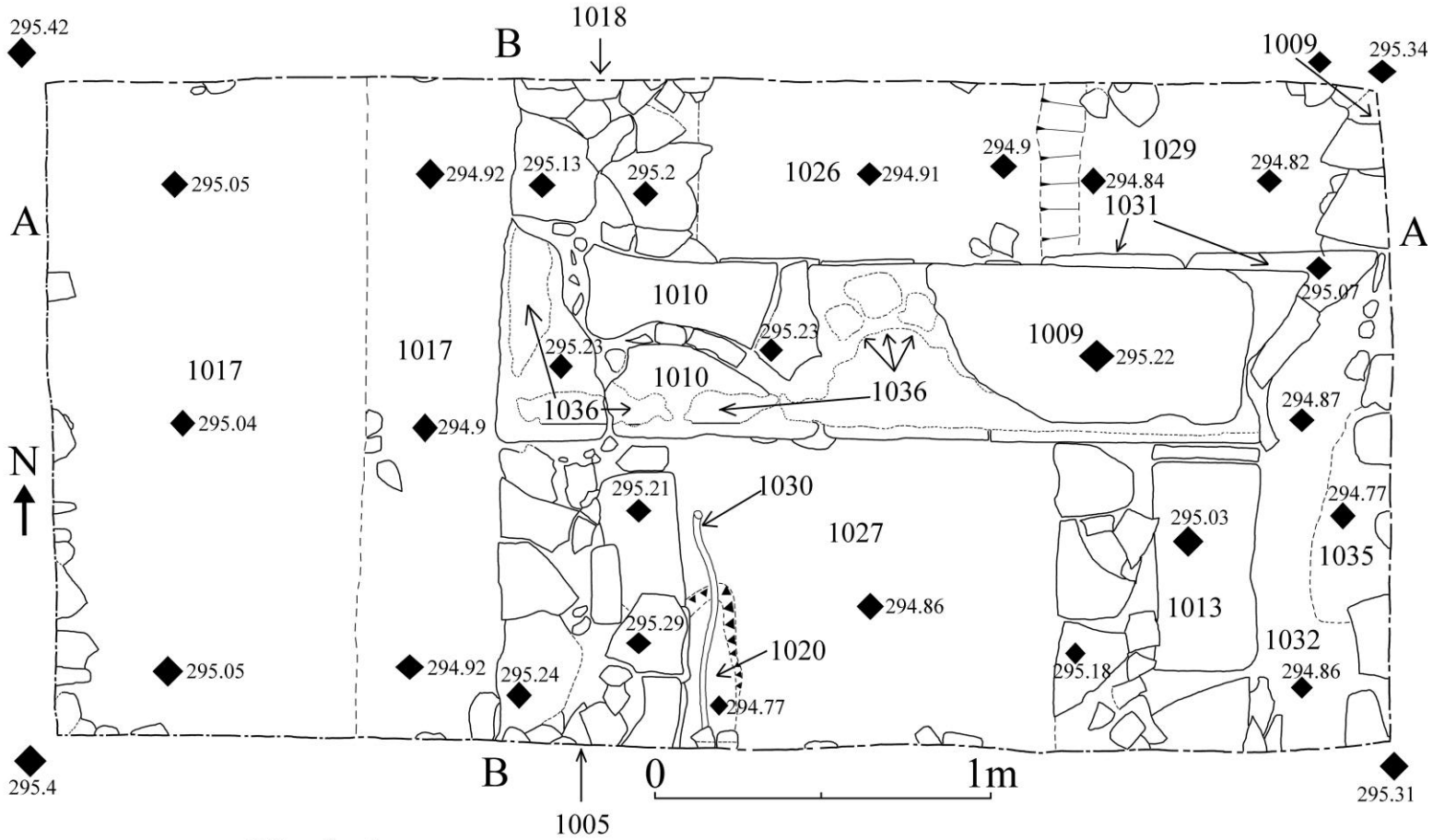
Elevation B-B



plan prior to excavation
of contexts 1023 and 1032

295.75 Levels (m.O.D.)

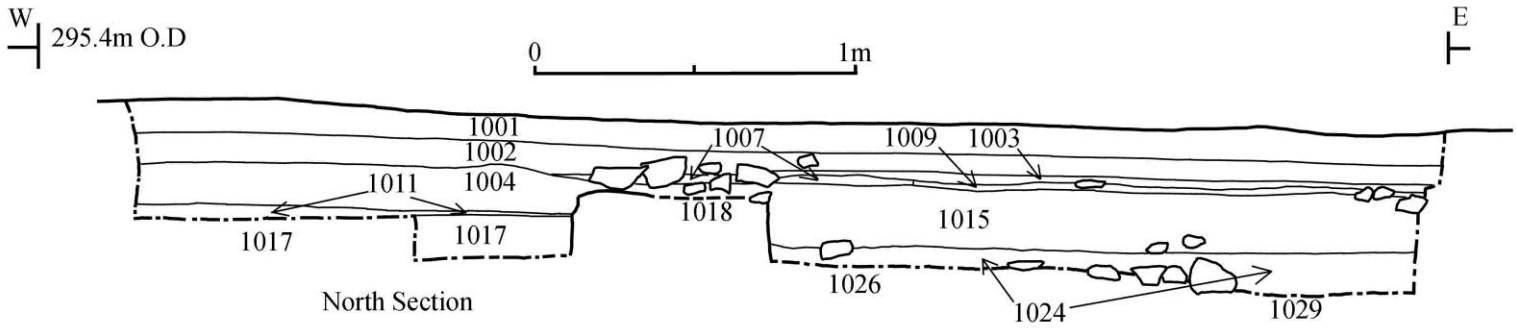
1001 context numbers



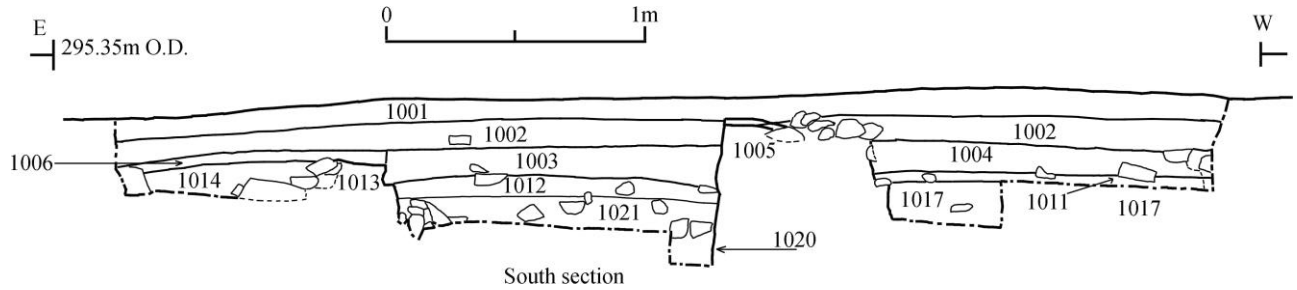
Final plan

295.75 Levels (m.O.D.)

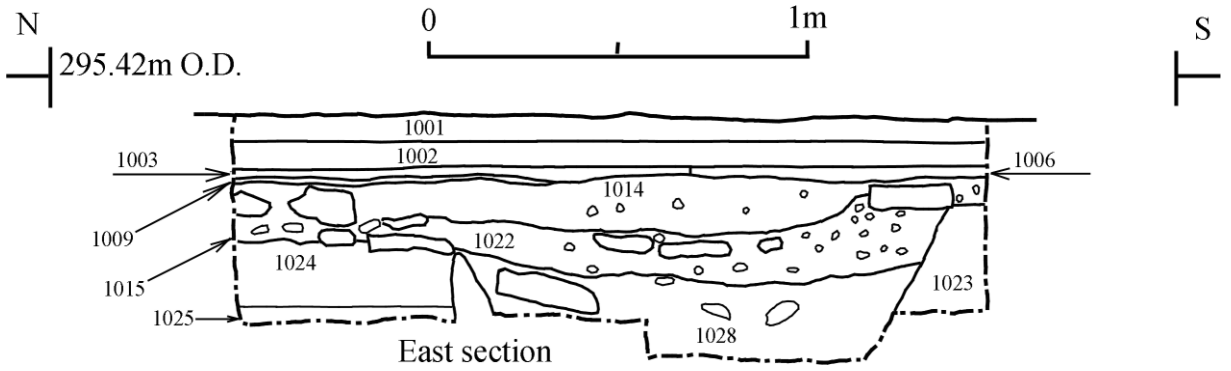
1001 context numbers

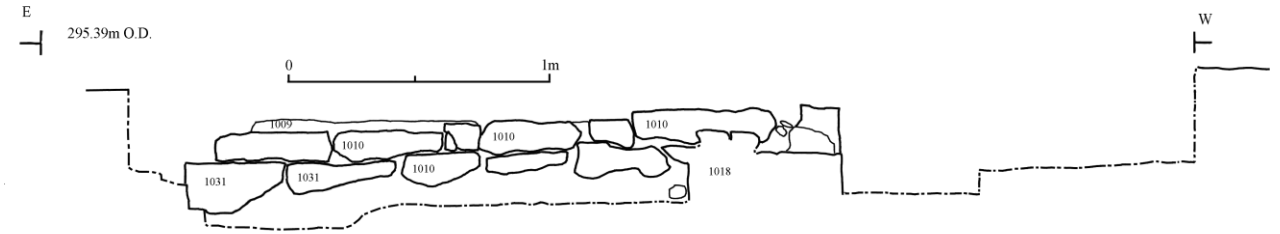


North Section

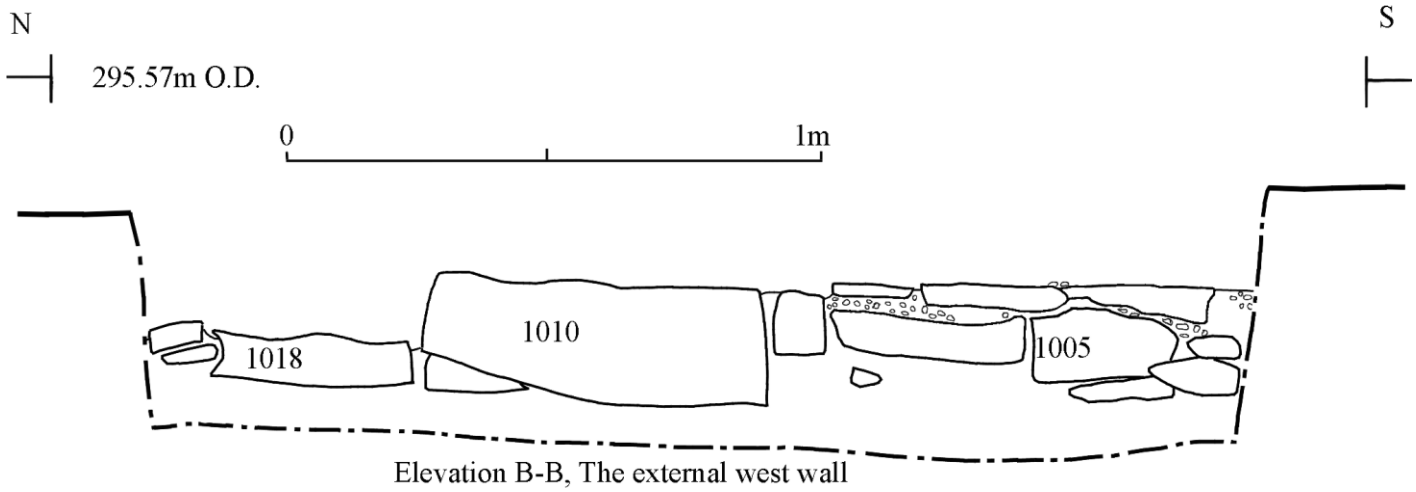


South section


N
0
1m
S
295.42m O.D.
1001
1002
1003
1006
1014
1009
1022
1024
1015
1023
1025
1028
East section



Elevation A-A, north face of wall 1010 and wall 1031



Elevation B-B, The external west wall

Appendix 4

Context summary and matrix

One trench was excavated, 4 metres long by 2 metres wide, along an east-west axis, in the north garden of "Castlefields", Bolsterstone.

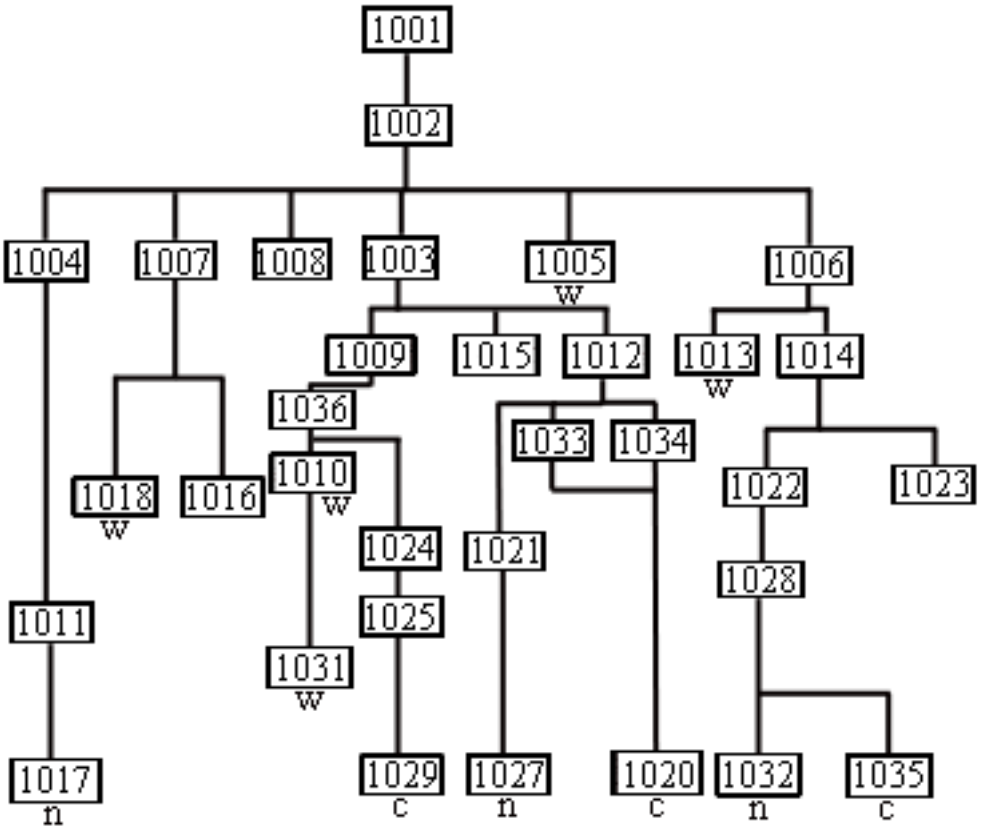
The excavation revealed substantial walls constructed in several phases. A major cut at the east end of the trench, along with numerous metalliferous deposits and finds, attest to the metal working which was carried on in this building. The recovered ceramics date most of the activity to the 18th and early 19th century.

Context	Type	Description	Interpretation
1001	Dep	Black brown sandy silt.	Topsoil/turf layer over the whole trench.
1002	Dep	Black brown sandy silt.	Topsoil interface with lower contexts. group context designation.
1003	Dep	Friable black brown sandy silt, Occasional pebbles	Mixed topsoil/demolition debris with hammer scale present.
1004	Dep	Sticky black brown sandy silt, Occasional pebbles	As 1003, but separated by contexts 1005 and 1007
1005	Struct	Small/medium blocks of stone dressed externally, filled with smaller stones between	Wall abutting wall 1010. Outer face flush with west end of 1010, and line of 1018, but not of contemporaneous construction.
1006	Dep	Black brown sandy silt, frequent pebbles	Soil similar to 1003 and 1004, but mixed with distinct rubble deposit. Demolition debris?
1007	Dep	Friable black brown sandy silt, frequent pebbles, and small to medium "mortar" frags.	Topsoil mixed with demolition debris and numerous frags of floor surface 1036.
1008	Dep	Loose black ash	Small patch of burnt material, in thin lense,

			beneath 1002.
1009	Dep	Highly compacted thick crust of fused orange brown material including metal debris. Highly magnetic.	Concreted and fused waste material from metalworking.
1015	Dep	Sticky orange brown clay sand, frequent pebbles, occasional cobbles	Redeposited subsoil and rubble fill. below 1007.
1024	Dep	Sticky orange brown clay sand. 80% medium and large cobbles.	As 1015, but containing more rubble. Below 1009.
1025	Dep	Sticky orange brown clay sand, frequent pebbles.	Fill of cut 1029.
1029	Cut	Plastic orange clay.	Cut to accomodate wall 1031, in natural undisturbed clay.
1016	Dep	Friable black brown sandy silt.	Below 1007. Fill of robbed out section of wall 1018.
1018	Struct	Medium blocks dressed externally, with smaller blocks between.	Wall abutting north face of wall 1010. Base flush with base of 1010, probably contemporaneous, different to 1005.
1036	Struct	White, mortar-like material	Floor surface underlying 1009, overlying wall 1010.
1010	Struct	Medium/large blocks dressed externally, with smaller blocks between.	Wall. Predates floor 1036, concretion 1009 probably contemporaneous with 1018, but not 1005.
1031	Struct	Large blocks dressed externally. angle of north face offset from that of 1010, from which these blocks protrude.	Wall, predating 1010, which it lies below.
1012	Dep	Friable orange brown clay sand and black ash mix.	Infill of space between walls 1010, 1005 and 1013.
1021	Dep	Sticky orange brown clay sand with cobbles and pebbles.	Infill of space between walls 1010, 1005, and 1013 Differentiated from 1012 by lack of ash.
1027	Dep	Plastic orange clay	Natural undisturbed clay beneath 1021. Cut by 1020.
1030	Struct	Lead pipe.	Water supply, in cut 1020, protruding above into context 1012.
1033	Dep	Friable black ash.	Back fill of southern half of cut 1020.
1034	Dep	Sticky orange brown clay sand.	Back fill of northern half of cut 1020.
1020	Cut	Roughly oval pit, with north-south axis, cutting 1027	Pit to accomadate water supply 1030, backfilled by 1033 and 1034.

1011	Dep	Orange brown clay sand, occasional medium flecks.	Loose redeposited subsoil.
1017	Dep	Plastic orange clay.	Natural undisturbed clay.
1013	Struct	Medium and small blocks dressed on external faces, with smaller blocks between. Abutts south face of wall 1010 at east end.	Wall, possibly contemporaneous with 1005, but later than 1010.
1014	Dep	Loose orange brown clay sand and black ash mix.	Mixed fill. Below 1006.
1023	Dep	Sticky orange brown clay sand.	Redeposited fill, differentiated from 1014 by absence of ash, and cut by re-cuts of 1035.
1032	Dep	Plastic orange clay.	Natural undisturbed clay.
1022	Dep	Friable black grit and irregular small to medium sized metalliferous pieces of debris.	Dumped hammer scale, slag, and other waste from metalworking
1028	Dep	Friable black grit.	Hammerscale, as for 1022, but without larger artefacts.
1035	Cut	Semi circular feature, cut into plastic orange clay.	Pit for dumping of metalworking waste. Cuts into 1032 and 1023. Re-cut 2 or 3 times.

Preliminary matrix of contexts



Key

W	Wall
N	Natural
C	Cut

Appendix 5

Additional Illustrations

Plate 13, view of trench facing east

Plate 14, A. Fillingham expertly demonstrates the art of de-turfing

Plate 15, Wendy Goodhind observes the tops of structures beginning to emerge

Plate 16, BAHG members excavate either side of wall 1010.

Plate 17, Ryan Wilson excavates a sondage to reveal the bottom of walls 1005(to his right), 1010, and 1018 (left).

Plate 18, Jayne Wright excavates the north east corner of the trench, her left foot resting against wall context 1031.

Plate 19, Ryan Wilson planning the excavated trench.

Plate 20, view west, showing the line of wall 1031, and its different configuration to that of wall 1010 above.

Plate 21, showing cut 1029, wall 1031, wall 1010, and concretion 1009.

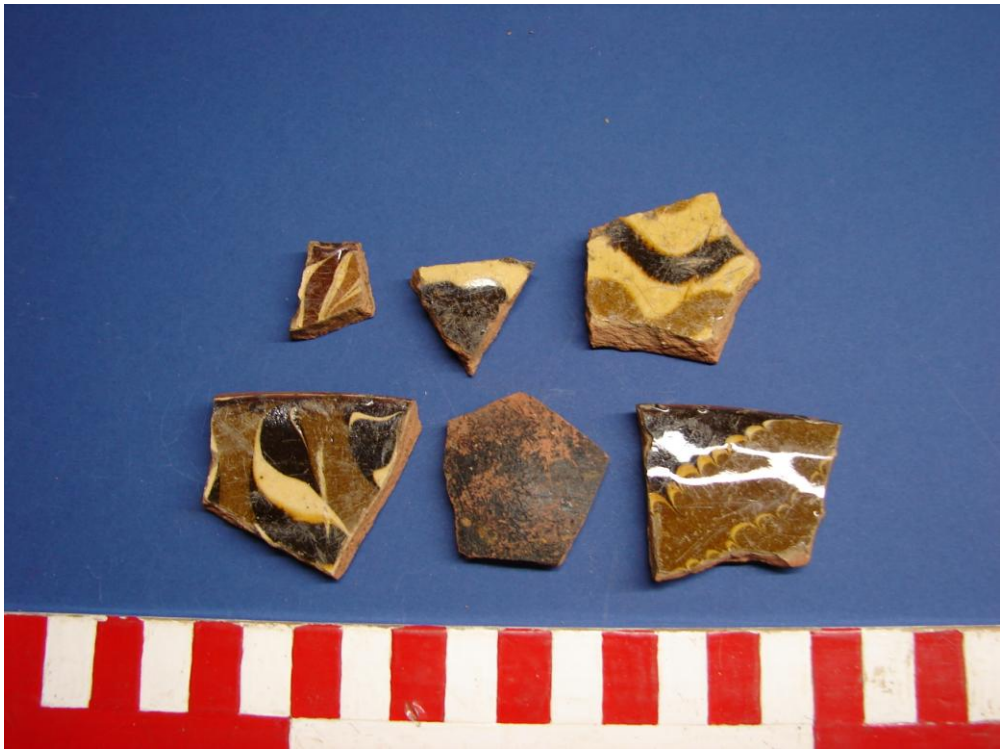


Plate 22, samples of vernacular ware recovered.

Plate 23, possible horse shoe fragment recovered.

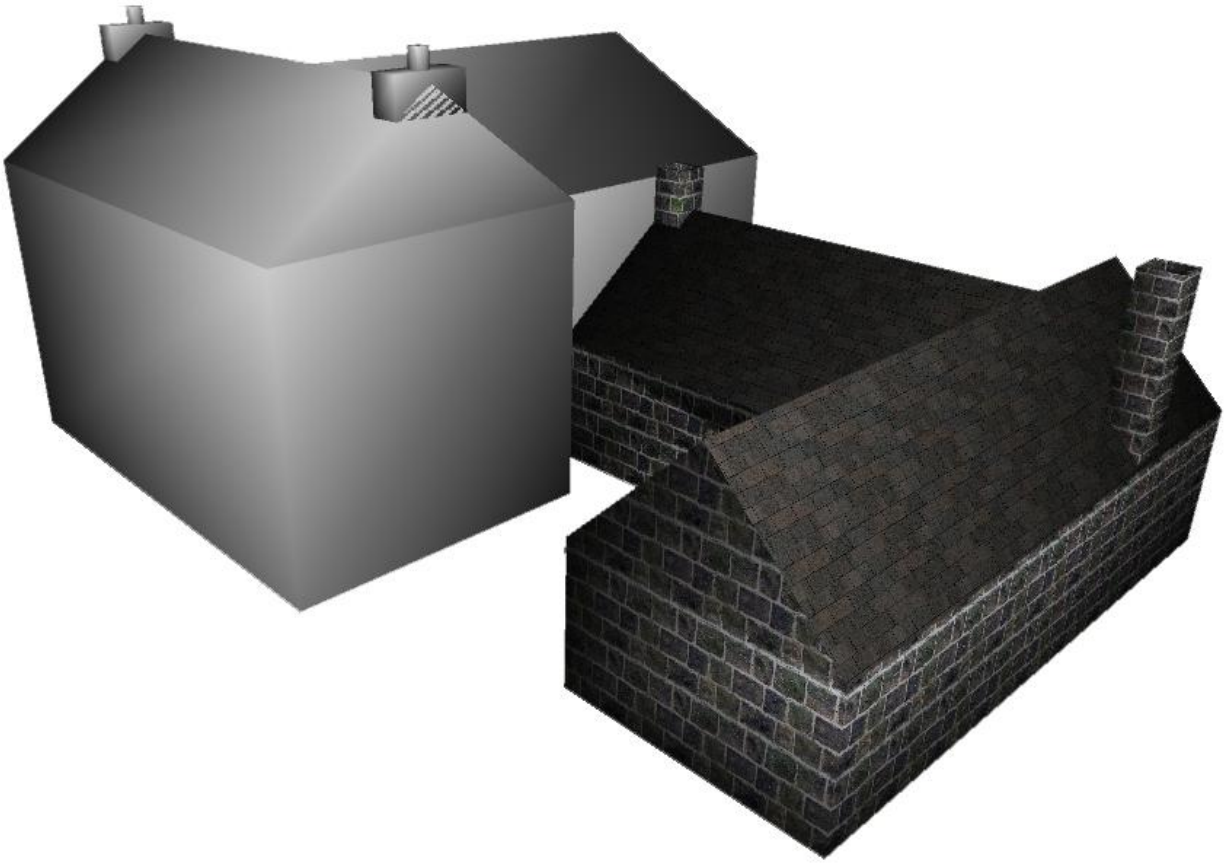


Figure 2, Model of how the Smithy might have appeared prior to demolition. Facing north east, with smithy abutting “castle green”. Model courtesy of Ryan Wilson.