Archaeological Services
University of Durham

# Binchester Hall, Bishop Auckland, County Durham

# archaeological evaluation

*on behalf of*

**Carter Jonas, for Pinesure Limited**

**ASUD Report 1302**
August 2005

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# Binchester Hall, Bishop Auckland, County Durham

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***ASUD Report 1302***

August 2005


***Archaeological Services University of Durham***

on behalf of

***Carter Jonas***

*15 Albert Street, Harrogate, North Yorkshire, HG1 1JX*

*for*

***Pinesure Limited***

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## Contents

# 1. Summary

1.1 This report presents the results of an archaeological evaluation conducted in advance of a proposed development at Binchester Hall, Bishop Auckland. The Hall is a 19th- and 20th-century building set inside the Roman fort of *Vinovia*, a scheduled ancient monument. The works comprised the excavation of four trenches to determine the depth of non-archaeological material and to assess the extent and nature of potentially sensitive archaeological deposits. The evaluation was undertaken to provide information relevant to redevelopment plans for the Hall and its grounds.

1.2 The works were commissioned by Carter Jonas, on behalf of Pineserve Limited. The project design was prepared and the work was carried out, under a Class 7 consent, by Archaeological Services University of Durham.

***Results***

1.3 Roman deposits, including a metalled surface and a possible road base, were found in Trench A, to the north of the Hall. Significant quantities of pottery and animal bone were recovered.

1.4 Trenches B and C lay to the west of the Hall. In B, human burials and part of a wall were found, together with significant amounts of Roman pottery and animal bone, half a stone spindle whorl and part of a shale bracelet.

1.5 Trench C found the remains of a previously-identified building; Roman pottery, animal and human bone and a coin were found. The area nearest to the building appears to have been extensively disturbed, both by the construction of the west wing and by the installation of services; the archaeological potential of this area is lower than is the case elsewhere.

1.6 Trench D, south-east of the building, found two gullies cutting mixed Roman deposits. Human and animal bone and pottery were recovered, and pieces of Roman roof and flue tile were found in the topsoil.

***Recommendations***

1.7 Any proposed redevelopment work will be constrained by the presence of stratified archaeological deposits, which are present within 0.3 to 0.7m from the present ground surface. These deposits include human burials, which cannot legally be disturbed without a Home Office licence and a suitable programme of archaeological work.

1.8 Proposals for building work, installation of drainage and service connections, or landscaping should take into account the need to preserve and protect the archaeological resources of the site. It is recommended that any such work, which will necessarily require Scheduled Monument Consent, should be carried out under archaeological supervision.

1.9 It is recommended that conservation and further analysis should be carried out on some of the excavated material; a short report on the work should be prepared for publication in a local journal.

## 2. Project background

***Location (Figure 1)***

2.1 The site is located at Binchester Hall, Bishop Auckland, County Durham, at grid reference NZ 209 313. The Hall is a 19th- and 20th-century building set inside the Roman fort of *Vinovia.* The existing property boundary, including buildings, gardens, car park and access roads contains an area of approximately 6500 square metres.

***Development proposal***

2.2 The aim of the development is to modify the existing Hall and to divide the property into seven apartments, each with a private garden. Alterations will also be carried out to the parking and access arrangements; a new drive will be made to serve the County Council site. Existing service and drainage connections will be renewed or replaced, and a new amenity block in the County Council site is also proposed.

***Objective***

2.3 The objective of the evaluation was to determine the depth of cover over the uppermost archaeological deposits, to enable an informed decision to be made on an application for Scheduled Monument Consent covering the proposed redevelopment work.

***Methods statement***

2.4 The work was undertaken in accordance with a project design, reference RA04.251r, prepared by Archaeological Services University of Durham. The evaluation was carried out under a Class 7 Consent, following consultation with the Assistant County Archaeologist and the English Heritage Inspector of Ancient Monuments.

***Dates***

2.5 Fieldwork was undertaken between the 4th and 15th July 2005. This report was prepared between 18th July and 4th August 2005.

***Personnel***

2.6 Fieldwork was conducted by Neil Adamson, Jill Inglis, Mark Newman, Sam Roberts and Richie Villis, and supervised by David Graham. This report and illustrations were prepared by David Graham. Specialist analysis was conducted by Dr Chris Cumberpatch (medieval and post-medieval ceramics), Scott Martin (Roman ceramics and building materials), Louisa Gidney (animal bone), Anwen Caffell (human bone), Richard Brickstock (Roman coins) and Dr Charlotte O'Brien (plant macrofossils). The Project Manager was Richard Annis.

***Archive/OASIS***

2.7 The site code is **BNH05**, for Binchester Nursing Home 20**05**. The archive is currently held by Archaeological Services University of Durham and will be transferred to the Bowes Museum in due course. Archaeological Services University of Durham is registered with the **O**nline **A**cces**S** to the **I**ndex of

archaeological investigation**S** project (OASIS). The OASIS ID number for this project is **archaeol3-9261**.

## 3. Landuse, topography and geology

3.1 At the time of the evaluation the proposed development area comprised an area of car park, building, gardens and lawns, and access roads. To the north of the proposed development area is Binchester Farm, while to the south there is a relatively steep slope where a landslip occurred in the 19th century. Further substantial erosion in the 1920s and 1930s destroyed most of the southern defences of the fort.

3.2 The site has a mean elevation of *c*.95m OD. It is located on the top of a spur overlooking a loop in the River Wear to the west. The solid geology is Westphalian Coal Measures, overlain by glacial deposits.

3.3 Binchester Hall and its grounds are situated within the walls of the Roman Fort of *Vinovia.* This is recognised as a nationally important site, given protection with Scheduled Ancient Monument status. The fort lies on Dere Street, in a strategically important position overlooking a crossing point on the River Wear. It was part of a chain of forts along Dere Street, including Piercebridge (*Magis*) to the south and Lanchester (*Longovicium*) and Ebchester (*Vindomora*) to the north.

## 4. Historical and archaeological background

***The prehistoric period (up to AD 70)***

4.1 There is no archaeological evidence for any Iron Age or pre-Roman settlement of the site. However, the ancient Greek geographer Ptolemy described Binchester as having been a native 'Brigantian city' before the Roman invasion and occupation. Given the defensive nature of the site and the known Roman military strategy of founding forts on or near tribal centres, such as Iron Age hillforts, this may indicate that there was an important tribal central place located here, at least in later prehistory.

***The Roman period (AD 70 to 5th century AD)***

4.2 From AD 78-84 the northern parts of Britain gradually came under Roman control, following the campaigns of Julius Agricola. Binchester was built as part of this strategy of conquest and control in this period. The conventional date assigned by various authorities for the founding of the fort is AD 79. It is believed that the Ninth Legion built the first timber fort at Binchester. This was subsequently rebuilt in stone by the Sixth Legion in the early 2nd century. It covered an area of 3.6 hectares, one of the largest forts in north Britain. At this time, AD 122-137, the forts along Dere Street became important supply depots for the newly constructed Hadrian's Wall, so changing their role in part of a wider military fortification system. The area was also used for industrial activities, especially iron working (Ferris & Jones, 1991). At about this time a *vicus*, or civilian settlement, which eventually covered 12.4 hectares, became established outside the fort walls. This provided services and goods to the

troops garrisoned within the fort and acted as a market centre for surrounding native communities.

4.3 The fort was garrisoned by auxiliary troops from around the empire. In the 2nd century a Spanish cavalry unit, the *Ala Vettonum*, was based at Binchester. These troops are also known to have been involved in some building work at the bath-house at Bowes Fort. In the early 3rd century the *Cuneus Frisiorum Vinoviensium,* recruited from the Frisii tribe in Holland, were based here. The Latin name for the fort, *Vinovia*, derives from their presence. Over the 300 years of occupation of the fort by the Roman army, the various buildings, including barracks, stables, bath-house, headquarters and commandants accommodation were extensively rebuilt. In the early 5th century the garrison was withdrawn leaving the settlement and fort to civilian control and occupation.

***The medieval period (5th century AD to 1540)***

4.4 The fort and surrounding settlement continued to be occupied by the local population through the post-Roman period, and Binchester remained an important small town. However, by the middle of the 6th century the stone buildings were being demolished and looted. Some of the stones were used in the construction of the nearby 7th-century Anglo-Saxon church of Escomb. A large Anglo-Saxon cemetery has been found partially within the fort, which indicates that Binchester continued to be an important settlement with a significant population up to the 10th century. After the Norman conquest the main focus of population shifted to the town of Bishop Auckland, about 2km to the south of Binchester. In the later Middle Ages the site at Binchester was occupied by a small hamlet and an Elizabethan manor house; a collection of altars and other stones found at the fort were kept there. Later the house came into the possession of Van Mildert, Bishop of Durham, and it was demolished; the Roman stonework was taken away and re-used in a local coal pit (Graham 1979, 11). Binchester Hall stands in the area of the old manor house.

***The post-medieval period (AD 1541 to 1899)***

4.5 The small hamlet had disappeared by the 17th century, with Binchester Hall and Binchester Farm taking their place. This period saw a growth in awareness of 'antiquities', including archaeological remains and ancient monuments. In the second half of the 16th century, antiquarian interest in the site of Binchester was stimulated by the work of John Leyland and William Camden. In the early 19th century a hypocausted room, part of the bath-house structure visible today, was discovered. The remains were protected and access was made possible for visiting antiquaries. In the late 1870's John Proud and the Reverend R.E. Hooppell dug into the bath-house (Hooppell, 1891).

***The modern period (1900 to present)***

4.6 In the 20th century the site continued to be the subject of research and excavation. Part of the area in the central range was excavated and laid out for public viewing. The Hall was converted for use as a retirement home, in which capacity it was still used until recently. As part of the conversion for this purpose, a large flat-bottomed excavation was cut on the west side of the Hall

in February 1989. This was made to provide light and access to the cellar under the recent west wing. This work was carried out without Scheduled Monument Consent; the excavation removed significant archaeological features. Rescue recording found that the bulk of a rectangular building had been destroyed, and that the new ground level was below that of the earliest archaeological horizon. This work resulted in prosecution and a significant fine.

***Previous archaeological works***

4.7 A summary of the pre-1974 work at Binchester has been made by Fawcett (2004). This includes the work of McIntyre, Sutton and Teasdale in the decade after 1929 and the PhD thesis of Steer in 1938. Dobson and Jarrett (1958) were also involved in excavations in the fort area in the 1950s. In the 1960s and 1970s the work of the Bishop Auckland Archaeological Research Group was important in terms of both excavation and the acquisition of land for the preservation of archaeological remains (Fawcett 1973 & 2004). Much of this work was carried out on the commandant's bath-house complex, which is on display today. Excavations in the late 1970s and 1980s are detailed in Ferris and Jones (1991). Much further work has been carried out in terms of aerial photographic analysis and geophysical surveying of both the fort and surrounding *vicus* area. On-going research, interpretation and expected further work will add further to knowledge of the historical development of Binchester.

## 5. The evaluation

***Introduction***

5.1 Four trenches were located over the proposed development area to evaluate the likely impact of specific proposals in the development scheme (Figure 2). Trench A was located in a tarmac-surfaced car park in the northern part of site, to determine the depth of cover and the nature, extent and condition of surviving features. Trench B was cut on the north side of the unauthorised excavation in the western garden, and Trench C to the south of this. Trench D was located to determine the depth of sensitive archaeological deposits on the proposed new access road, south-east of the Hall.

***Trench A (Figures 3 and 10-11)***

5.2 Trench A was divided into two parts due to the presence of a live electricity cable that runs from the north-east corner of Binchester Hall Cottage to the north-east corner of the main range of the Hall. The eastern part of the trench measured 8m long by 2.5m wide, and the western 6m by 2.5m wide (Figure 3).

5.3 The earliest identifiable features in Trench A were a metalled surface [F22] and a possible road base [F32]. The surface [F22] covered a small area at the west end of the eastern half of the trench. It was composed of small to medium-sized rounded stones (Figures 3 and 10). This area was covered by a layer of mixed silty loam with concentrations of small stone chippings [19]; this layer contained pottery and animal bone. In the western half of the trench

a substantial spread of small to large-sized stones, some of which showed signs of being worked, was identified [F32] (Figures 3 and 11). This is either the remains of a demolished building or the base of a road. The presence of small and medium-sized cobbles among the larger stones may indicate that the latter interpretation is more likely. This stone deposit was covered by a layer of brown silty loam [20], similar to [19]. This contained large quantities of animal bone, and significant quantities of pottery.

5.4 The overlying layers were all modern in date, being the product of the foundation of a possible demolished structure, and levelling of the ground. A layer of mixed brown silty loam [21] was identified in the eastern end of the trench. This was similar to the underlying layer [19] which had been disturbed by levelling activities. To the west of this deposit a layer of red crushed tile [18] was seen extending into the western half of the trench. A thick layer of mixed grey sand and gravel [17] overlay this. A thinner layer of black silty clay [16] overlay [17]. In the south-western end of the trench larger hollow blocks [28] formed a layer over the crushed brick tile layer [18] and also directly over the archaeological layer [20]. A layer of hardcore [15] overlay these upper layers [16] and [28]. Tarmac [14] covered the area, overlaying the hardcore foundation (Figure 3; sections 7 and 12).

***Trench B (Figures 4-5 and 12-15)***

5.5 Trench B measured 8.5m long by 5m wide (Figures 4 and 12) and was located immediately to the north of the unauthorised 1989 excavation. In the north end of the trench a human burial was identified (Burial 1; Figures 4 and 14). It was not possible to determine a grave cut, but the soil surrounding the surviving bone was given a separate context [30] to the surrounding brown silty clay matrix [4]. The partial burial had been badly disturbed but it was apparent that the remains had been articulated. Given the relatively shallow depth of the burial, immediately below the dark organic silty-loam garden soil [3], it is likely that general gardening activity caused its generally disturbed state. Burial 2, the broken remains of an adult sized skull, was identified to the south of Burial 1. A further partial but articulated skeleton, Burial 3, was located in the southern end of the trench (Figures 4 and 15). This burial may comprise more than one individual. The matrix surrounding Burial 3 was also given a separate context number [31] although no cut was visible to distinguish it from the surrounding layer [4].

5.6 Both grave fills [30] and [31] contained finds, but it is not possible to say if these would have been associated with the burials due to the high degree of disturbance. Nothing distinguishes these finds from the large quantities of material present in the underlying layer [4], which covered the entire area of the trench. This contained quantities of human charnel, which indicates a relatively high density of human burial and disturbance over the centuries. Context 4 also contained a relatively large quantity of animal bone and pottery.

5.7 To the south of Burial 3 the remnants of a wall [F29] were identified (Figures 4 and 12). This had been badly disturbed by the unauthorised digging in 1989, and by the easier access afforded to animals and plant roots. The wall had also

been disturbed by a modern drain trench [F35] which crossed the trench. This contained a ceramic pipe and a dark brown silty clay fill [33] similar to the overlying layer [3]. A layer of hardcore [2] and tarmac [1] overlay the mixed garden soil layer [3] (Figure 5).

***Trench C (Figures 6-7 and 16)***

5.8 Trench C measured 5m long by 2.5m wide (Figure 6) and was located immediately to the south of the 1989 excavation (Figure 2). The remains of a wall [F39] were identified in the northern half of the trench, aligned north-east to south-west (Figures 6 and 16). The stones of the wall were surrounded by a light brown silt-clay deposit with mortar fragments [38]. To the east of the wall a dark brown silty loam layer [37] was identified. A Roman coin was recovered from the interface between this layer and the overlying mixed garden soil [11], a medium brown silty loam, which contained quantities of slate fragments. Pottery from a wide date range, with animal and some human bone, were also recovered from this layer. A cast iron pipe [F36] crossed the wall within this layer [F39]. A layer of mixed soil and mortar rubble [40] overlay these deposits, which in turn was covered by a layer of topsoil [10]. These layers were confined to the west side of the northern half of the trench. The southern and western parts of the trench had been completely disturbed by excavation for foundations and modern services. A layer of orange-brown silty clay, with inclusions of gravel and larger stones, [13] was identified; this may have been the natural subsoil. This was overlain by a mixed layer of grey gritty silt with stone and gravel [12]. This was covered by a very mixed silt clay deposit [9] which had rubble and ceramic pipe inclusions. The top of a steel sheet pile was also visible within this deposit. A layer of harcore [8] covered this southern area and overlay the southern edge of the topsoil [10] identified in the northern half of the excavation. Tarmac and loose gravel [7] provided the ground surface here (Figure 7).

***Trench D (Figures 8-9 and 17-18)***

5.9 Trench D measured 3m wide by 5m long (Figures 8 and 17) and lay in an area of lawn east of the drive, on the south-east side of Binchester Hall (Figure 2).

5.10 An archaeological layer of mixed silt loam, clay and concentrations of medium-sized angular stones was found [23]. This has been cut by two gullies [F27] and [F25] aligned east-west (Figure 8 and 18). Small samples of their fills were recovered for evidence of their date or function. The northern gully [F25] was filled by a dark brown loam [24], much disturbed by roots. Roman pottery was found in this fill, and a number of small to medium stones appeared to line part of the bottom of the feature. To the south, the straighter gully [F27] was filled by a deposit [26] like the fill of [F25]. This too contained evidence of root penetration, and quantities of pottery. A human bone was also found in this deposit, indicating a disturbed burial in the vicinity. A layer of dark brown soil [6] which formed an interface between topsoil [5] and the underlying archaeological deposits was found to contain quantities of animal bone and pottery. Large quantities of roof tile and box flue tile, as well as pottery and bone, were recovered from the topsoil layer [5] (Figure 9). Below the turf, this soil appears to be essentially composed of

disturbed archaeological deposits; these indicate the former presence of relatively high-status buildings in the vicinity.

## 6. The finds

***Assessment of the medieval and post-medieval pottery***

6.1 The pottery assemblage from Binchester consisted of 23 sherds of pottery weighing 123 grams, representing a maximum of 20 vessels. The assemblage also included a fragment of burnt stone. The data are summarised in Table 1 (page 24, below).

6.2 The assemblage consisted of two distinct elements; a medieval component and a 19th century component with a single sherd of post-medieval to early modern pottery from an unstratified context.

6.3 The medieval sherds all showed signs of abrasion and, with the exception of the sherd from context [20], are associated with later material and so might be judged to be residual within later contexts. The sherds are all of local or regional manufacture and are of types to be expected from the area.

6.4 The sherds of later 18th and 19th century pottery are all of unremarkable types and cannot be ascribed to any particular factory or manufacturer.

6.5 No further work is recommended on this material.

***Assessment of the Roman pottery***

6.6 The excavations at Binchester Hall produced 241 sherds weighing 3.12kg. This assemblage was recovered from just ten contexts, but also includes a number of unstratified sherds. The following assessment has been compiled from the spot-dating archive and has been made with reference to the aims set out in the SCORP Report (Young 1980, 1).

6.7 The pottery was recorded on a context-by-context basis and sorted into fabrics based on identifiable source, or broad fabric groups where source could not be readily recognised or remains unknown. A number of publications were referred to where vessel forms could be identified, including Corder's two Crambeck publications of 1928 and 1937, and Gillam's (1968) northern form typology. The pottery was also recorded with reference to the Guidelines issued by the Study Group for Roman Pottery (Darling 1994) on A4 *pro forma* sheets and transferred to an Access database to allow computerised manipulation of the ceramic data. A fabric series was created as cataloguing progressed, although full fabric descriptions were not compiled at this stage. A number of these, however, are included in the National Roman Fabric Reference Collection (Tomber and Dore 1998) making detailed description superfluous.

6.8 From the amounts of pottery recovered from each context, the range of assemblage sizes, based on sherd count, can be shown to be variable (Table 2, page 25, below). Although there were no large groups (i.e. more than 100

sherds), the bulk of the groups contained more than 11 sherds. The largest group, which came from layer [4] in Trench B, comprised 85 sherds weighing 1.25kg, while the smallest came from grave fill [31] in Trench B and the fill of gully [F25] in Trench D, which amounted to just two sherds weighing 0.03kg and 0.02kg respectively. Identifiable vessel forms were present in all but two contexts (Table 3, page 25). There were a number of large sherds present and relatively few exhibited any signs of abrasion. Where samian was present, this was generally in poorer condition compared with the coarse wares. This suggests that while the assemblage is generally well preserved some residual material is present.

6.9 The spot-dating record shows that virtually all of the pottery can be placed within a broad late Roman date-range. The dominance of Crambeck grey wares suggests that the bulk of the pottery arrived on the site after *c.* AD 300. This is confirmed by analysis of vessel form, with the bulk of the identifiable forms in Crambeck grey ware and Calcite gritted fabrics attributable to the 4th century. There were also several vessels that are commonly assigned a date to the period after *c.* AD 350. These include a Huntcliffe type jar (cf. Gillam 163) and a bead and flange dish with internal wavy line decoration (cf. Gillam 231). The presence of Central Gaulish samian suggests the presence of earlier activity, but all of this material was recovered from contexts that also contained late Roman pottery. The same is true of the Gillam 243 Mancetter-Hartshill mortarium. Five contexts also contained post-Roman material (Table 3).

6.10 The spot-dating programme has identified a wide range of sources for the pottery reaching the site (Table 4, page 26). Interestingly, a sherd of Argonne red-slipped ware was recognised. Apart from this and the samian the only other import was a small and abraded sherd from a South Spanish Dressel 20 amphora. Of the Romano-British traded wares present, the range is typical of the region and includes BB1 (Dorset rather than Rossington Bridge), Nene Valley colour-coats and Mancetter-Hartshill mortaria. The bulk of the pottery, however, appears to be derived from Yorkshire, with Crambeck wares being especially prevalent. The Calcite gritted wares are also derived from a variety of Yorkshire sources, as is perhaps the rest of the pottery.

6.11 Because the bulk of the pottery is from contexts that are post-Roman in date, the assemblage has little value as dating evidence for stratigraphic sequences. Even though most contexts produced identifiable vessel types, the presence of post-Roman material in most contexts also means that there is little potential for more detailed study using EVEs (estimated vessel equivalence based on rim percentage present). Although the bulk of the pottery appears to fall within a relatively narrow date range, the assemblage has little potential for further study. However, as very little pottery has so far been published from either Binchester or from nearby sites at Greta Bridge and Piercebridge, a more detailed publication report than would be normally warranted is perhaps justifiable in this instance. Given that the pottery is generally well preserved with few pieces that exhibit abrasion, publication could perhaps take the form of an illustrated catalogue.

6.12 Some further work is recommended on this assemblage. It may be worth illustrating several of the more closely dateable vessels given the absence of any recent publication relating to Binchester. Any publication report should take the form of a brief summary, noting the amount of pottery recorded, methodology, and a short catalogue. No more than six illustrations would be necessary. More detailed analysis of the samian may also be useful for further research if only to highlight the distribution of these fabrics at Binchester.

***Assessment of the animal bone***

6.13 A small collection of animal bones was recovered. The data for each context in Table 7 (page 29) are in code, based on the conventions used in AML Report 3342. Only fragments with a diagnostic zone have been counted. Vertebrae were recorded as cattle or sheep size. Broken teeth, incisor teeth, rib and long bone fragments have been ignored.

6.14 The bones are in a moderate state of preservation with much evidence of recent breakage, both as a result of past activity at the Hall and of mechanical excavation. Very few bones had intact points of measurement left. The excavator has noted disturbance of the human remains resulting from gardening activities, service trenches and unauthorised digging. These have also impacted on the animal bones.

6.15 The larger trenches, A and B, produced the greatest numbers of identifiable bones. All are listed by context in Table 7 but since the bones from each trench are concentrated in only one or two contexts, this brief discussion will only refer to the trenches. While cattle bones are most abundant in all trenches, there is a surprisingly diverse range of species represented in this small collection. The cattle bones are all from adult animals with only the later-fusing bones unfused. Butchery and gnawing marks were seen. The collection is too small to examine body part representation but it was noted during recording that most of the bones present are the particularly robust elements that survive longest in adverse conditions. Sheep/goat remains are also present in all four trenches, with one horn core fragment definitely from sheep, not goat. Pig remains are less numerous; this may be a product of survival as the pig bones derive from more immature animals than those of cattle, and so are more vulnerable to decay. A further indication of fragmentation and survival is the proportion of loose teeth contributing to the identified specimens for the common species. Overall 28% of the cattle, 42% of the sheep/goat and 21% of the pig remains are loose teeth. Sheep/goat bones are therefore likely to be significantly under-represented in this collection. Dog is represented by part of a mandible, as well as gnawing marks on cattle bones. Only teeth of horse were found, usually a good indication of reworked deposits and residual finds as horse teeth have a high survival rate. The most unexpected finds are those of deer. Trench A produced a fragmentary hollowed out section of antler beam, most probably from red deer. These artefacts look very much like the modern napkin ring and similar objects of both bone and antler that were recovered in the excavations directed by Iain Ferris and Rick Jones at Binchester (1991). Trench A also produced a toe bone comparable to red deer. Trench C produced part of a hind limb bone from a roe deer. Also from

Trench C is a bone from a small animal, not yet identified. It is much larger than mouse or vole but may fall into the rat/water vole/hedgehog size range.

6.16 The preponderance of cattle bones, paucity of bones from juveniles, and comparatively high proportions of loose teeth are all signifiers of the disturbed nature of these deposits. As such, no further work is recommended on the present assemblage. Nevertheless, this collection serves to indicate the potential for the recovery of bones from undisturbed, stratified deposits around Binchester Hall.

***Assessment of the building materials***

6.17 Analysis of the building materials recovered from the site was restricted to identification of type, the counting of fragments and the noting of any distinguishing features. The most common building material type present was tile. Plaster, daub, mortar and *opus signinum* fragments were also recorded. The quantities of each type are summarised in Table 5 (page 27).

6.18 A wide range of tile types was present, including three unstratified box-flue tiles. Generally, the tile was fragmentary and featureless, although one tegula flange was present. The rest of the building materials could be modern. This small assemblage of building material offers no new data about the site; no further work is required.

***Assessment of the clay pipe assemblage***

6.19 Two fragments of clay tobacco pipe stem were recovered from deposits in Trench C. A fragment from context [9], 2.8cm long, measured 5mm in diameter with a borehole diameter of 3mm. The fragment from context [11] measured 5.3cm long with a diameter of 8mm. The borehole diameter measured 3mm.

6.20 The contexts from which these finds came are both mixed deposits. Context [9] is a disturbed modern deposit for service provision. Context [11] is a mixed garden soil. The clay pipe is residual, being mixed with both earlier and later material. The clay tobacco pipe itself probably dates to the later 19th century. No further work is recommended on this material.

***Assessment of the glass assemblage***

6.21 A total of 17 glass fragments were recovered from contexts in all four of the trenches (A-D). The majority of the assemblage was of Roman date, but there were also some more modern intrusions. The classification of the fragments has followed Price and Cottam (1998).

6.22 The data are summarised in Table 8 (page 33). Two fragments of glass were found in the eastern half of Trench A, in context [19]. One was a relatively large example of pale olive green flat glass. It had a rounded edge or rim. It is likely to be the edge of a window glass produced by the matt-glossy manufacture process. The other example was also flat glass, being a lighter green in colour and slightly thinner. This had a more pronounced matt-glossy appearance on its sides, indicative of window glass.

6.23 Five fragments of glass were recovered from two deposits in trench B. Four fragments were found in layer 4. A small fragment of colourless glass with a thin and curved body may have derived from a fine tableware vessel. A fragment of green-blue flat glass is possibly window glass. Another curved fragment of dark blue-green glass may have derived from the body of a vessel such as a bottle or flask. Another fragment from context 4 was a pale olive-green in colour. It had a slight curve and was thicker at one end than the other. One side was also smoother compared to the other exhibiting a more pitted surface; bubbles were also visible. This may be part of a vessel such as a bottle or flask. However, it may also be window glass produced by the matt-glossy process. The fifth glass fragment was found in the deposit, context [30], surrounding Burial 1. This was a fragment of colourless glass and is probably the base to a small square vessel.

6.24 Five glass fragments were found in two deposits in trench C. A fragment of colourless/clear glass from context [9] is modern window glass. Four fragments from context [11] were recovered. A fragment of green curved glass with bubbles, both isolated and elongated may have derived from a Roman period vessel. A fragment of colourless flat window glass is modern in date. Another fragment of flat colourless glass had bubbles visible and was thinner than the above example and may have derived from a Roman vessel; at 1mm thick it is too thin to be window glass. A fragment of a probable flat and square rim from a light green coloured vessel was also identified; this may have been from a Roman period square flask form.

6.25 Five fragments were found in trench D; of the three from the topsoil layer [5], two were modern clear/colourless glass. A fragment of flat green glass with bubbles visible is probably Roman window glass. A fragment of pale green tinged glass was found in context [6]. This is flat but at 1mm thick is probably too thin to be window glass and may have derived from a fine tableware vessel. A small flat, thin, pale green fragment was found in gully fill [26]; this probably derives from a Roman period vessel.

6.26 Some work in analysing the chemical constituency of colourless glass from Binchester has been carried out (English Heritage Scientific Report 21/2004). However, because of the small quantities recovered and the lack of useful stratification evidence, the examples recovered from this evaluation are not recommended for further analysis.

***Assessment of the metal objects***

6.27 A total of 29 objects were briefly visually examined to assess their condition, to determine the material from which they were made, and to look for surface and technological detail.

6.28 There are 25 iron and four copper alloy objects. A catalogue is included in Table 9 (page 34). The ironwork was found to be moderately to highly corroded, as was the copper alloy. A few pieces of iron were only lightly corroded (Trench B, [4]), but it is possible that these are modern.

6.29 Much of the iron appears to be nails or nail fragments. Two of the objects (from Trench B [4] and Trench D [5]) appear to be modern, including evidence of a plastic strip attached to an object from the topsoil layer, Trench D [5].

6.30 Four copper alloy objects were identified. One, from Trench B [31], is a small, thin twisted object that was unidentified, but was associated with an iron nail. It is visible on XR 5377.

6.31 Two of the copper alloy discs (Trench B [4] and Trench C [11]) appear to be coins. Further conservation work would be necessary to try to fully reveal the surface.

6.32 The well preserved copper alloy object from Trench B [4] appears to be a large stud. Some of the surface is visible from the XR (5377) but further conservation work would be necessary to reveal further surface detail.

6.33 It is recommended that the two copper alloy discs from contexts [4] and [11], and the copper alloy stud from context [4] undergo further conservation work to reveal surface detail, which would allow further analysis and study to be carried out. No further work is recommended on the remaining material; however, the assemblage should be retained as part of the archive.

***Assessment of the coins***

6.34 The following assessment is based on a visual examination and on X-ray 5377.

*Trench C, Context 11*

6.35 Small mid-fourth-century copper alloy coin. A fair amount of loose material covers most of the obverse and part of the reverse. Even so, the reverse type is visible, though not the mint-mark (which may be beyond recovery). X-ray 5377 also gives a reasonably clear image of the reverse. Cleaning should allow a more precise identification. Provisional identification: House of Constantine, GLORIA EXERCITVS 1 standard, 335-41 (or copy thereof, *c.*335-48.)

6.36 In this instance, cleaning of both sides would be advantageous, the obverse in order to identify the ruler and the reverse in order to identify the precise issue. On the obverse, the central portion of the legend is thus more important than the type; on the reverse, the mint-mark (in the centre of the type and the exergue) is the key element.

*Trench B, Context 4*

6.37 Small copper alloy coin. A large amount of material obscures all detail of both sides of the coin, but X-ray 5377, which gives some slight suggestion of surface detail, suggests that at least part of the surface may remain beneath these deposits. Cleaning may therefore allow a rather more precise identification, though a full identification is unlikely. Provisional identification: probably 4th century, *c.*330-402; possibly Constantinian, *c.*330-48.

6.38 Cleaning of at least one side is needed if a useful identification is to be achieved. (The reverse would be the most helpful, but at present it is not possible to tell which that is).

***Industrial residues assessment***

6.39 A total of 10 slag fragments from two contexts were examined. Nine were recovered from Trench B, context [4], and one from Trench C, context [11]. Four of the fragments from context 4 are lighter and have a glassy, bubbly consistency typical of waste by-products of smelting of the metal ores with the fuel source. Four other fragments from context [4] are denser with a convoluted surface texture. Some glassy consistency is also visible on some of the examples. There is also an orange-brown discoloration on these fragments indicative of iron content. The flat roughly circular shaped fragment from Trench C, context [11] is a shiny smooth glassy purple-black colour on one side and matt brown and rough in texture on the other side. The data are summarised in Table 10 (page 34).

6.40 Large scale metalworking has been identified from previous excavations at Binchester dating from the Roman and medieval periods. In both periods this has been found to have been predominantly the working of iron for the production of tools and, in the Roman period, possibly weaponry. The industrial waste recovered as part of this evaluation appears to be further evidence of this metalworking activity. The material recovered from context [4] is more likely to have been part of the Roman period occupation. No further work is recommended on this material.

***Assessment of the stone objects***

6.41 Part of a shale bracelet and half a circular stone spindle whorl were recovered from deposits in trench B.

*Shale bracelet*

6.42 A 30mm-long fragment of a shale bracelet was found in context [31], Trench B. It is dark grey-black in colour with a slight curve. On its outer surface it has two grooves on each edge, with a central ridge 3mm wide separating them. Two slighter grooves are also visible on the outer rim of the upper surface creating a smaller ridge along both edges of the bracelet. The internal surface of the bracelet has a single central groove which may be evidence of manufacture, involving a lathe and cutting tools.

*Stone spindle whorl*

6.43 Half a rounded grey stone spindle whorl was found in context [30], Trench B. It is smooth and shows signs of wear on one side. The opposite side is flatter but shows signs of pitting and greenish discoloration of the surface. It has a diameter of 4cm with a central hole of 8mm in diameter.

*Recommendations*

6.44 It is recommended that the objects should be illustrated, and that the shale bracelet fragment should be submitted for further specialist examination.

***Conservation assessment*** *(Table 11, page 35)*

6.45 47 objects were received for examination and X-radiography, comprising 25 iron, 4 copper alloy, 1 ?shale and 17 glass. The objects were briefly visually examined to assess their condition, to determine the material from which they were made, and to look for surface and technological detail.

6.46 The ironwork was found to be moderately to highly corroded, as was the copper alloy. A few pieces of iron were only lightly corroded (Trench B [4]), but it is possible that these are modern. All the metal appeared stable when viewed. The ?shale fragment (Trench B [31]) was stable, as were most of the glass fragments, with only one piece (Trench D [26]) showing evidence for the formation of an unstable weathering layer.

6.47 Lightly corroded metallic material is defined as having a thin, often compact corrosion surface, sometimes with good patination, which obscures little of the object's form or surface detail; there is significant metal remaining below the corrosion surface. Moderately corroded metallic material is defined as having the surface detail, but not usually the general form of the object, obscured by corrosion products, and has some metal remaining below the corrosion. Highly corroded metallic material is defined as either having both the form and the surface detail of the object obscured by corrosion, and/or having little or no metal remaining in its core.

6.48 The objects were sorted into groups of similar density, which were X-rayed together. Three XR plates were used. When viewing the XR plates, they should be orientated with the bright spot (a lead marker) in the top left hand corner, to correspond with the annotated XR sleeve. Details of the artefacts examined were entered into a database which includes the context and small finds number, an identification of the material and of the object, where possible, the condition of the object when examined, its XR plate number, and any technological or other observations.

6.49 Much of the ironwork appears to be nails or nail fragments. Two pieces of iron slag were identified (Trench A [20] & Trench C [11]). The copper alloy discs (Trench B [4] & Trench C [11]) appear to be coins, but little detail is visible either on the object or the XR. Further conservation work would be necessary to try to reveal the surface. The well-preserved copper alloy object from Trench B [4] appears to be a large stud. Further conservation work would be necessary to reveal surface detail. The shale fragment (Trench B [31]) appears to be a fragment of bangle.

6.50 The metalwork has been suitably packed for medium to long term storage. It should continue to be stored in an airtight container at a stable temperature and below 20% RH, to inhibit further corrosion. The RH should be controlled by active silica gel, which is regularly monitored and regenerated as necessary.

6.51 It is recommended that the two copper alloy discs (probable coins; from contexts [4] and [11]), and the copper alloy stud (from context [4]) undergo further conservation to reveal the surface detail.

# 7. The human remains

7.1 Three burials were identified in Trench B (these were not lifted, and remain *in situ),* and disarticulated human remains were found in several contexts in Trenches B, C and D, mixed with animal bone and pottery.

*Disarticulated human remains*

7.2 The disarticulated human remains were separated from the animal bone and examined in the laboratory. A list of contexts yielding human remains, the number of fragments and bone elements in each context, and the minimum number of individuals for each context is provided in Table 12 (page 36). The identification of the bone elements is given in Table 13 (page 37).

*Number of bone elements*

7.3 A total of 52 fragments of bone from 47 bone elements was recovered. Most of the bone elements came from Trench D (27/47, 57.4%), and almost all the rest came from Trench B (18/47, 38.3 %); only two human bone elements were found in Trench C. Most of the material in Trench D came from context [6], the layer between the topsoil and the archaeological deposits (22/27, 81.5%). Most of the material in Trench B came from context [4] (13/18, 72.2%).

*Condition*

7.4 The condition of the bone was generally middling to poor. The bone elements were fragmentary, and the surface preservation of most bones (*c.* 80%) was scored at 3, i.e. most of the bone surface had been affected by some degree of erosion, and although the general morphology was maintained the surface detail was lost in places (McKinley, 2004). Some bone (*c.* 10%) was scored as 1-2 (some surface erosion in places), and some bone (*c.* 10%) was scored as 4-5 (entire surface affected by erosion that had obscured or changed surface morphology). However, the majority of bone fragments could be identified (Table 13).

*Minimum number of individuals (Table 12*)

7.5 The minimum number of individuals represented by the total remains is four: three adults (based on the presence of the glenoid fossae of three right scapulae) and one non-adult (based on the presence of a deciduous first molar). There was a minimum of two individuals in Trench B (one adult, one non-adult); one individual in Trench C (an adult); and two individuals in Trench D (both adult).

*Age and sex*

7.6 The age-at-death of the non-adult is between 1.5 and 10 years, based on the presence of the deciduous first molar. However, it is more likely to be at the lower end of this age range as the cusps are only slightly worn; unfortunately the condition of the root cannot be assessed as it has broken post-mortem. Two left auricular surfaces were recovered from context [6] (Trench D), one suggesting an age-at-death of *c.* 40-50 years, and the other (less well preserved) an age-at-death of *c.* 40+ years. The latter was possibly female, based on the wide greater sciatic notch and the slightly raised auricular

surface. The two teeth from Context 30 (Trench B) both suggest an age-at-death of *c.* 17-25 years.

*Pathology*

7.7 Three instances of pathology were noted: two fused cervical vertebrae, which could be congenital or due to trauma, and a proximal femur showing evidence of non-specific infection (osteitis / osteomyelitis), both in context 6, Trench D; a lumbar vertebra with a Schmorl's node on the superior surface of the body was found in context 5, Trench D.

*Burials*

7.8 Three burials were identified during the evaluation, but the remains were not lifted. As the burials were not excavated, they have been assessed from photographs. It is clear that the remains are disturbed, fragmentary and incomplete (*c.* <20%), and most of the visible bone elements are damaged. These factors make it extremely difficult to identify many of the bones with any degree of confidence, so any conclusions drawn must be regarded as tentative.

7.9 Burial 1 consists of the remains of the cranial vault, a left os coxa (ilium), what appears to be a right femur, and possibly a humerus. Most of the bones remaining (and identifiable) seem to be roughly in anatomical position. The individual was probably an adult. If the bone and teeth from context 30 belong to this individual then it was a young adult, but this is by no means certain, given the large amount of disarticulated bone present in the surrounding context [4].

7.10 Burial 2 consists of five or six fragments of a cranial vault, and one long bone (possibly a femur, tibia or humerus?).

7.11 Burial 3 consists of a proximal radius, a right os coxa and right proximal femur (articulated and prone), another os coxa (possibly from the right side), possibly a sacrum, the distal two-thirds of a femur (unsided, prone) next to an unidentified long bone (femur/tibia/humerus?) and possibly a cranial vault, a group of long bones which appear to be two tibiae and two fibulae. There is another large long bone, either a femur or a tibia, and at least two other unidentified long bones, possibly a humerus and a radius/ulna, and a couple of ribs. There could be at least three femora present (or at least three tibiae), which would suggest at least two individuals, but the damage sustained by the bones means that it is particularly difficult to identify them with any certainty, or to determine whether more than one individual is present. The prone position of three of the bones might well have resulted from the evident disturbance of the burial.

*Discussion*

7.12 These human remains might be part of the 7th -11th century Anglo-Saxon cemetery known to be on the site. Around 54 individuals have been excavated and studied in the past, but it has been suggested that the cemetery may originally have contained hundreds of individuals (Norton and Boylston, 1997). Norton and Boylston noted that the individuals were buried in shallow

graves, and observed that this had probably resulted in the disturbance of the burials, contributing to the poor state of preservation of the remains. The same situation was found with the burials identified here, with Burial 1 being found immediately beneath the garden soil and the disturbance attributed to gardening activity. The disarticulated material may have come from these three burials, or from burials in the rest of the cemetery.

7.13 Further study of the excavated remains will be of limited value, as they are disarticulated and poorly preserved. They cannot provide data relating to individuals, which forms the basis of most studies on human osteology and palaeopathology. However, should further excavations take place in the vicinity then the possibility of discovering more burials should be anticipated, as the data gained from articulated inhumations could contribute to our understanding of the population and the site.

## 8. The environmental evidence

8.1 Contexts [24] and [26] were assessed for plant macrofossils. Five litres of each were manually floated and sieved through a 500 μ mesh. The residues were retained, described and scanned using a magnet for ferrous fragments. The flots were dried slowly and scanned at x 40 magnification for waterlogged and charred botanical remains. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services, University of Durham. Total numbers of remains per species were logged and the results were interpreted in their archaeological and palaeoecological contexts. Plant taxonomic nomenclature follows Stace (1997).

8.2 The contexts produced low volumes of flot which comprised few plant remains. Charcoal, coal, clinker, modern roots and insect fragments occurred in the flot matrix. The contents of the flots are listed in Table 14 (page 40).

8.3 The only plant remains present in the flot of context [26] were a charred grain each of oats and barley and an uncharred thistle seed. Both charred and uncharred seeds were absent from context [24]. Barley has been cultivated widely in Britain since the Neolithic period. Oats does not appear to have been commonly used in northern England until the medieval period, however, there is evidence that it may have been cultivated in certain areas since late prehistoric times (Huntley & Stallibrass, 1995). It is not possible to determine whether the plant which produced the oat grain in context [26] was cultivated or grew wild.

8.4 In view of the well-drained nature of the site and the presence of modern roots in the flots, the uncharred thistle seed and insect fragments are likely to be modern introductions. The occurrence of small amounts of charcoal in both flots and clinker/cinder in context [26] reflects incidences of burning. This may include residues from domestic or industrial fires, clearance burning, cremations or accidental fires.

8.5 The poor concentration of plant remains and other environmental evidence means that the samples provide little chronological or economic information about the site.

8.6 No further work is recommended for either of the contexts due to the low concentration of plant remains. The charred oat and barley grains in context [26] would be suitable for AMS radiocarbon dating.

## 9. Discussion

9.1 Because of the nature of the investigation, which was intended to determine where the archaeological deposits are rather than to examine them, only a limited amount of new information has been recovered in the course of this project. It is significant, however, that the work has shown that post-Roman burial, already known to exist to the north-east of the Hall, extend to the west side of the buildings. The presence of the building affected by the 1989 damage on this side of the building has been confirmed, and indications of another building to its north have been recorded.

9.2 It is clear that any proposed redevelopment work will be constrained by the presence of stratified archaeological deposits, which are present between 0.3 and 0.7m below the present ground surface. These deposits include human burials, which cannot legally be disturbed without a Home Office licence and a suitable programme of archaeological work. Proposals for building work, installation of drainage and service connections, or landscaping should take into account the need to preserve and protect the archaeological resources of the site. It is recommended that any such work, which will necessarily require Scheduled Monument Consent, should be carried out under archaeological supervision.

***Constraints on development work***

9.3 The results of the evaluation suggest that the presence of archaeological deposits will have a limited effect on the small-scale work proposed for the drive and car park at the north and east of the Hall. The remains found on the west side of the building will have a more profound effect on decisions about future building and landscaping work. On the north side of the large area that was stripped in 1989, any excavation to a depth exceeding 0.7m below the existing ground level will impact on stratified deposits which contain human burials. On the south side of the western depression, Trench C showed that excavation deeper than 0.3m will impact on surviving archaeological features. However, the archaeological deposits have been destroyed by drainage and construction work in the southern part of Trench C, and in an area up to 3m wide along the western face of the building adjacent to that trench.

9.4 On the north side of the depression, the ground has been disturbed by the building of the modern extension to the Hall. Evidence of disturbance is demonstrated by the presence of a feed pipe from an adjacent heating-oil storage tank. South of this there is a large concrete slab which covers a cut that extends 2.1m from the wall face, and which is up to 0.9m deep. It is assumed that this disturbance was caused by excavation for the foundations of

the west wing; it is likely to have removed the majority of any archaeological deposits along the west face of the building.

9.5 The minimum depth of cover above archaeological deposits, measured from the existing ground surface at each of the four trenches excavated in this evaluation, is given below.

| | | |
|---|---|---|
| Trench | A | 0.45m |
| | B | 0.70m |
| | C | 0.30m |
| | D | 0.50m |

## 10. Updated project design

10.1 Further work is required to ensure that the material recovered from the evaluation trenches is adequately conserved and analysed, and that the information is published. A scheme of post-excavation work should be carried out to address the recommendations made in the report above, which are summarised here.

***Roman pottery***

10.2 Illustration of the more closely dateable vessels, and the preparation of a brief summary and catalogue are required, together with more detailed analysis of the samian ware.

***Coins***

10.3 Cleaning should be carried out to allow a more precise identification of the two coins.

***Stone objects***

10.4 The bracelet and spindle whorl fragments should be illustrated, and the bracelet fragment should be submitted for further specialist examination.

***Conservation***

10.5 The two coins and the copper alloy stud from context [4] undergo further conservation to reveal the surface detail.

***Report***

10.6 A short report on the excavation and the finds assemblages should be prepared for submission to the *Durham Archaeological Journal*.

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**Binchester Hall, Bishop Auckland, County Durham**
**archaeological evaluation**
**ASUD Report 1302**
Figure 1
*Location of the proposed development area*

on behalf of
**Carter Jonas**




site location

0 1km

*scale 1:25 000 - for A4 plot*

Binchester Farm

Trench A

Trench B

tank

existing car park to fort

excavated area

Binchester Hall

Trench C

Trench D

existing drive



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site boundary

trench

concrete

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Figure 2
*Location of the trenches*

0 25m

*scale 1:500 - for A3 plot*

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0 2m
*scale 1:50 - for A3 plot*

stone
bone
brick
limit of excavation
12 section

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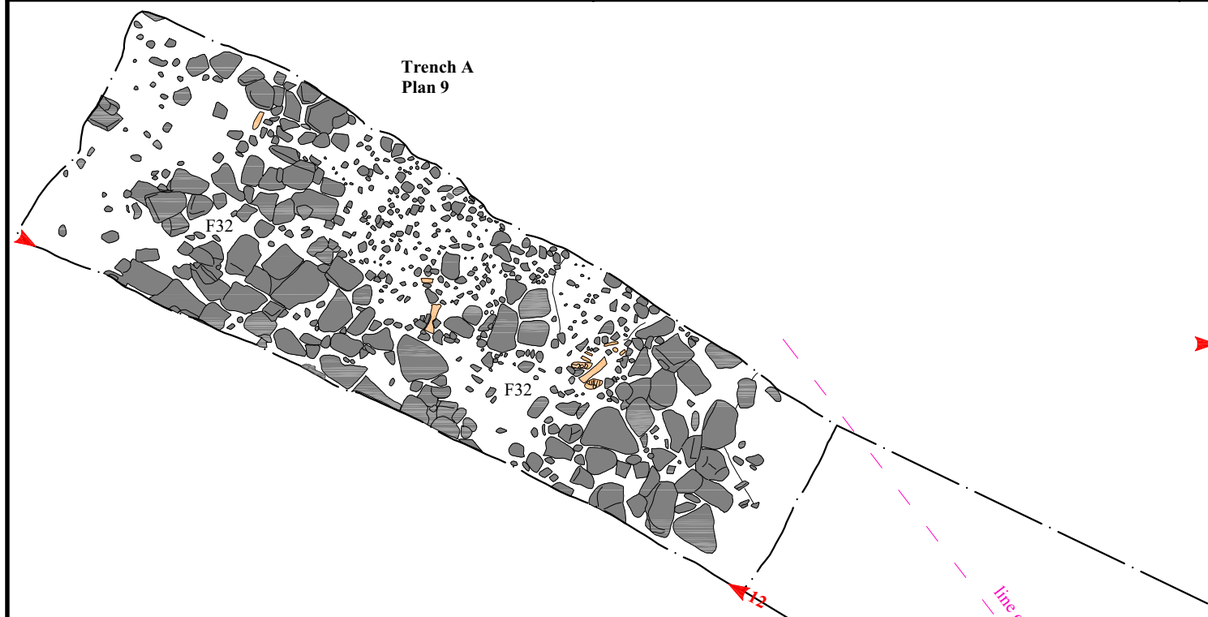
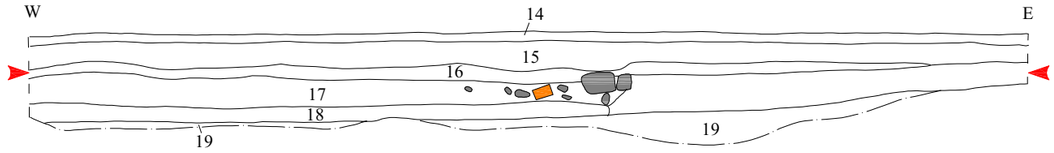
Figure 3
*Plans 9 and 6 and sections 12 and 7 of Trench A*

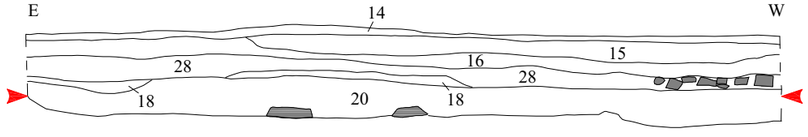
**Trench A**
**Plan 9**



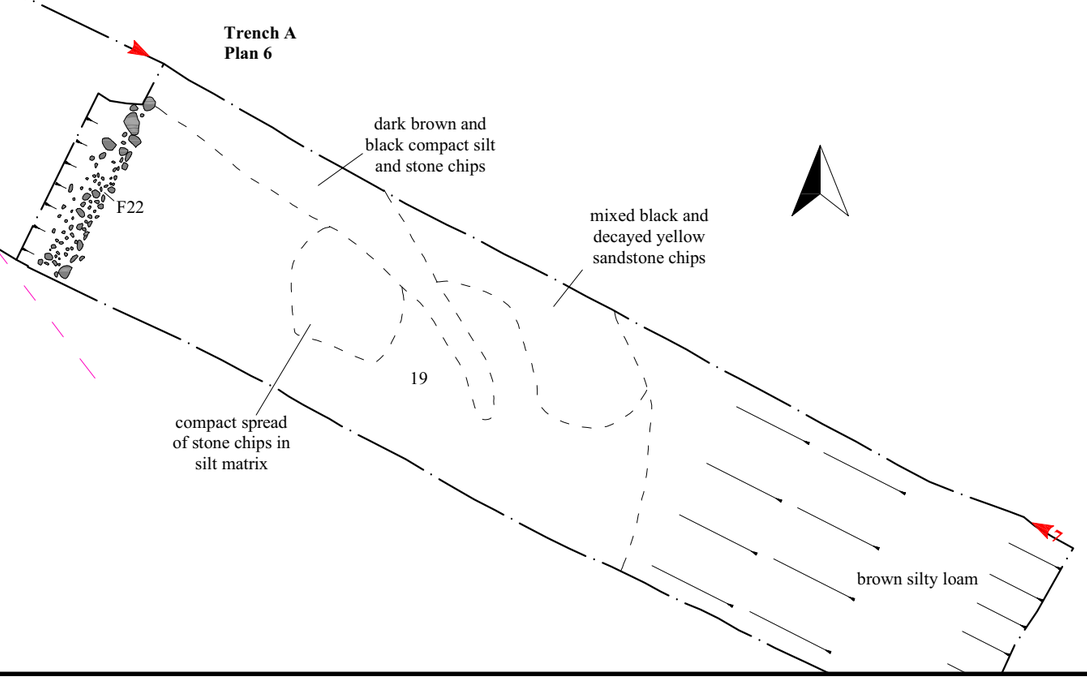

**Trench A**
**Section 7**



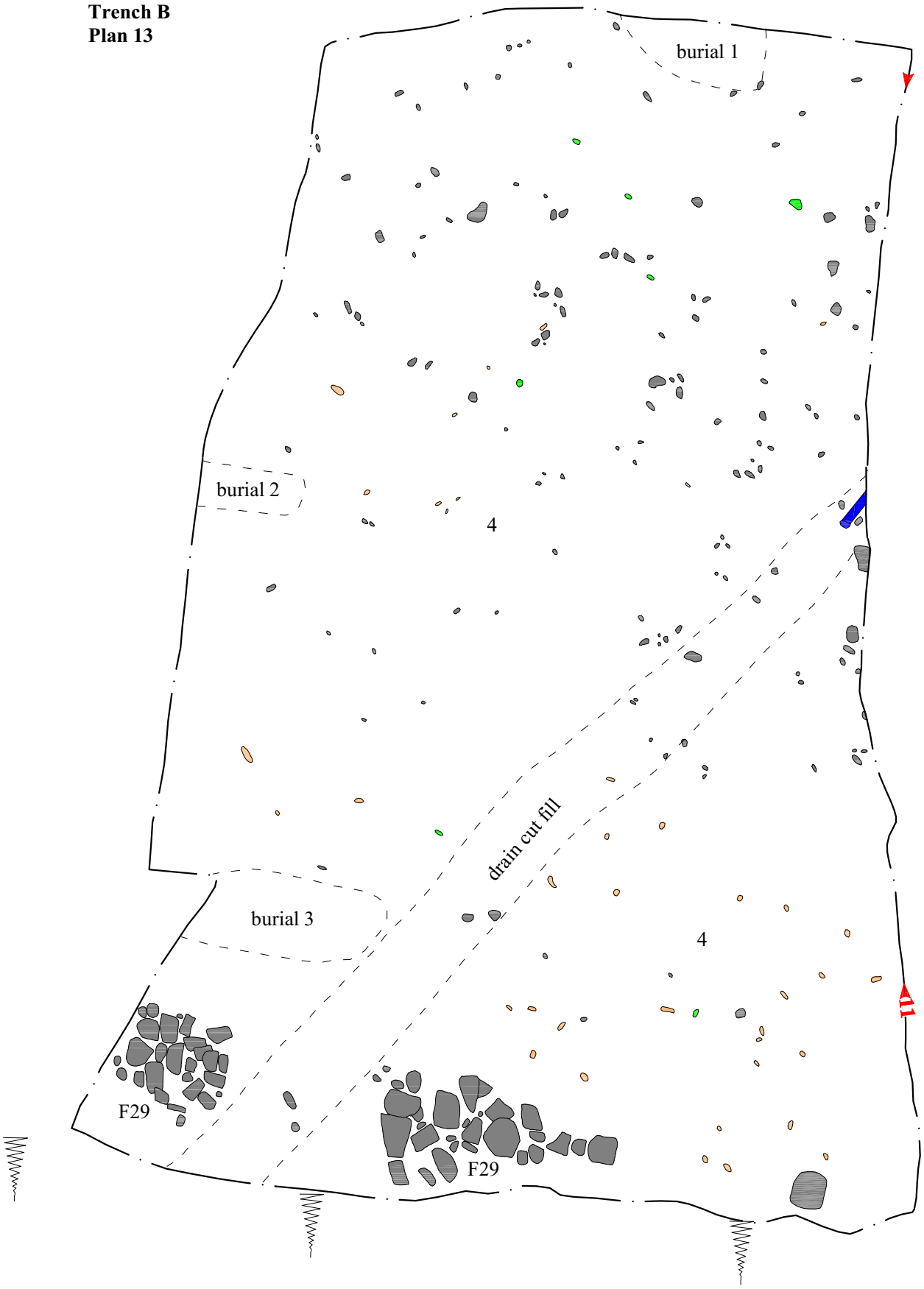

**Trench A**
**Section 12**




**Trench A**
**Plan 6**



**Trench B**
**Plan 13**




area of unauthorised digging in 1989

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Figure 4
*Plan 13 of Trench B*

on behalf of
**Carter Jonas**

0 2m
*scale 1:40 - for A3 plot*

stone
bone
pot
drain
limit of excavation
12 section

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0 2m

*scale 1:40 - for A4 plot*

stone

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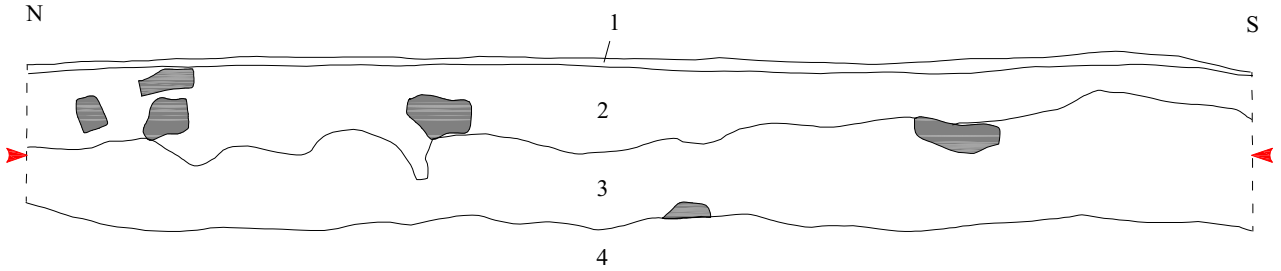
Figure 5
*Section 11 of Trench B*

**Trench B**
**Section 11**



**Trench C**
**Plan 5**

37
38
F36
F39
11
37
coin
38
concrete slab over
service inspection
12
F39
9
13
9
9

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Figure 6
*Plan 5 of Trench C*

0 1m
*scale 1:20 - for A3 plot*

stone
bone
mortar
cast iron pipe
limit of excavation
12 section

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0 1m

*scale 1:20 - for A4 plot*

stone

brick

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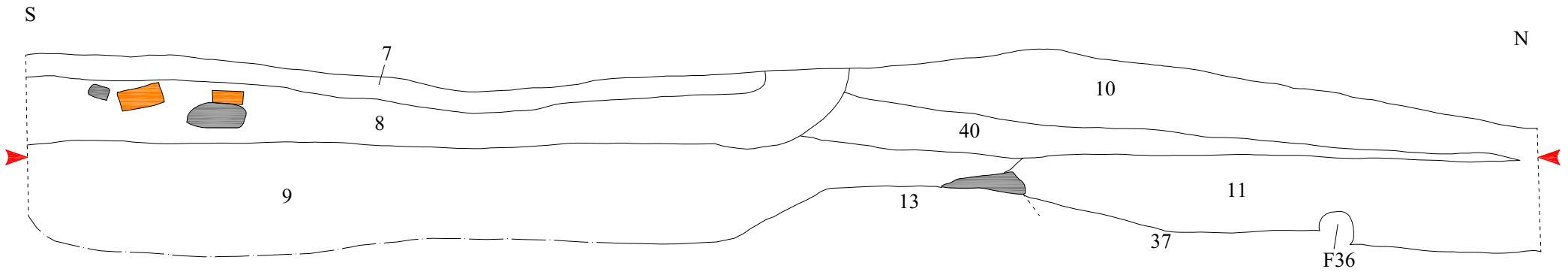
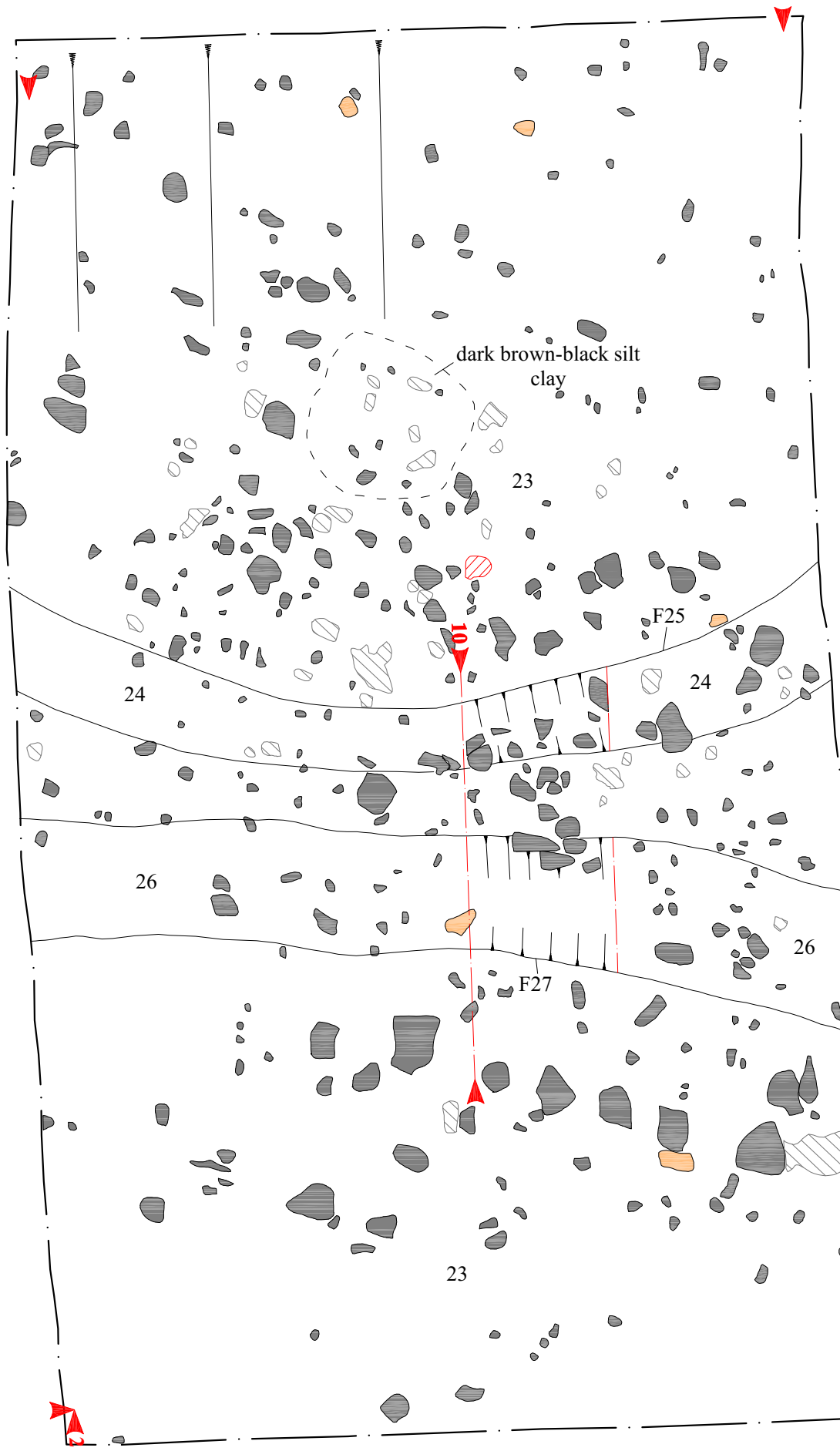
Figure 7
*Section 8 of Trench C*

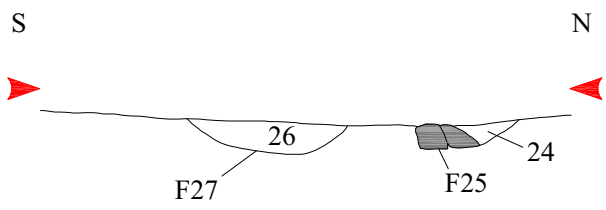
**Trench C**
**Section 8**



**Trench D**
**Plan 2**




**Trench D**
**Section 10**

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**Binchester Hall, Bishop Auckland, County Durham**
**archaeological evaluation**

**ASUD Report 1302**

Figure 8
*Plan 2 and section 10 of Trench D*

on behalf of
**Carter Jonas**

0 1m
*scale 1:20 - for A3 plot*

stone
bone
red clay
white clay
limit of excavation
12 section

Archaeological Services
University of Durham

on behalf of
**Carter Jonas**

0 1m

*scale 1:20 - for A3 plot*

stone

bone

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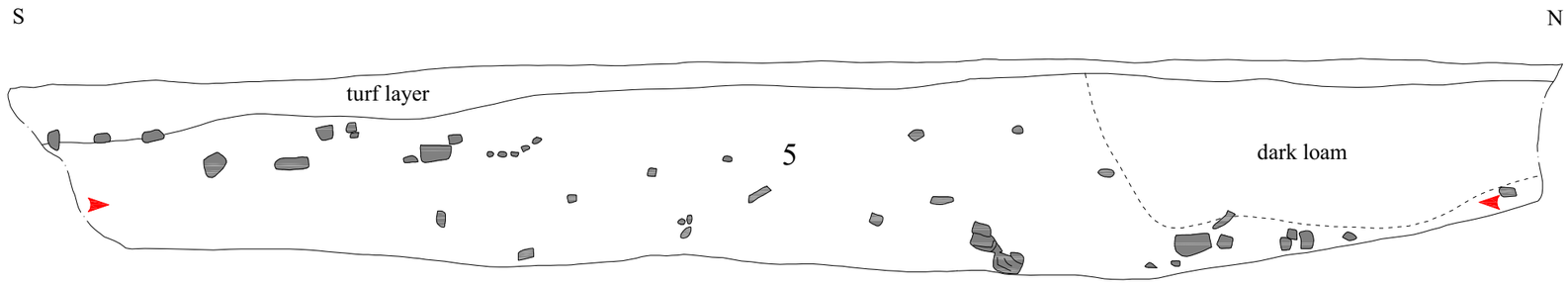
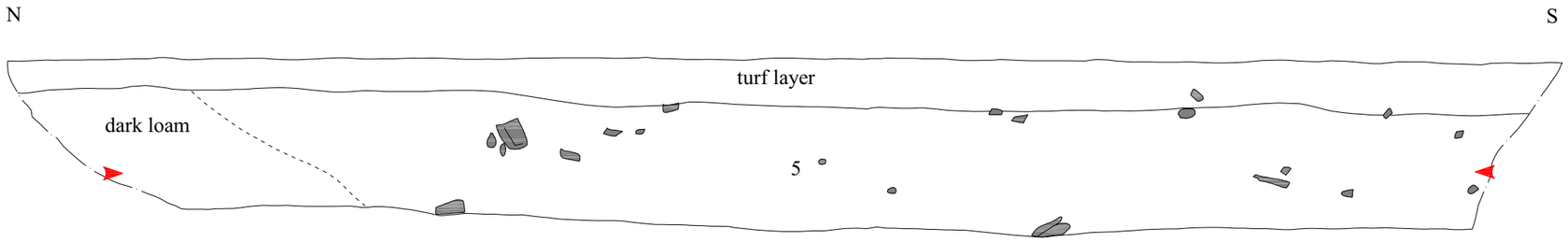
Figure 9
*Sections 2, 3 and 4 of Trench D*

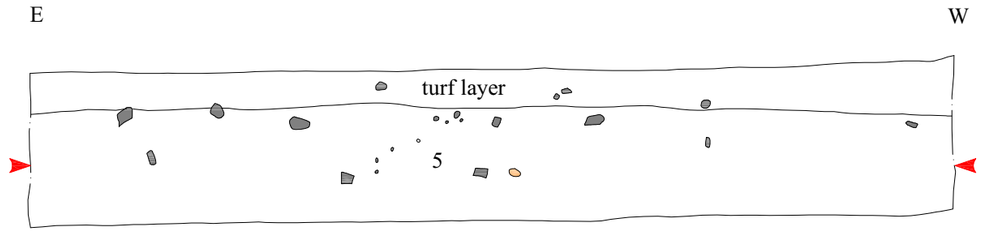
**Trench D**
**Section 2**




**Trench D**
**Section 3**




**Trench D**
**Section 4**



## Appendix 1: Context information

Summary list of contexts. The • symbols in the columns at the right indicate the presence of finds of the following types: P pottery, B bone, M metals, G glass, S slag, O other materials.

| No | Tr. | Description | P | B | M | G | S | O |
|---|---|---|---|---|---|---|---|---|
| 1 | B | Tarmac | | | | | | |
| 2 | B | Hardcore | | | | | | |
| 3 | B | Black organic silty loam | | | | | | |
| 4 | B | Brown silty clay | • | • | • | • | • | |
| 5 | D | Topsoil | • | • | • | • | | |
| 6 | D | Layer | • | • | | • | | |
| 7 | C | Tarmac | | | | | | |
| 8 | C | Hardcore | | | | | | |
| 9 | C | Mixed silty clay and rubble deposit | • | • | • | • | | |
| 10 | C | Topsoil (in northern half of trench) | | | | | | |
| 11 | C | Dark brown loam garden soil layer | • | • | • | • | • | |
| 12 | C | Gritty gravel grey silty clay layer | • | | | | | |
| 13 | C | Organic silty sand | | | | | | |
| 14 | A | Tarmac | | | | | | |
| 15 | A | Hardcore | | | | | | |
| 16 | A | Mixed black silty loam layer | | | | | | |
| 17 | A | Mixed grey sand-gravel layer | | | | | | |
| 18 | A | Crushed brick/tile layer | | | | | | |
| 19 | A | Brown silty clay layer | • | • | • | • | | |
| 20 | A | Brown silty clay layer | • | • | • | | | |
| 21 | A | Dark grey silty loam | | | | | | |
| F22 | A | Metalled surface | | | | | | |
| 23 | D | Mixed stone, silt and clay deposit | • | | | | | |
| 24 | D | Dark brown silty loam fill of curvilinear gully | • | | | | | |
| F25 | D | Cut of gully | | | | | | |
| 26 | D | Dark brown fill of gully | • | • | | • | | |
| F27 | D | Cut of gully | | | | | | |
| 28 | A | Sandstone type brick layer | | | | | | |
| F29 | B | Stone wall in southern end of trench | | | | | | |
| 30 | B | Deposit around Burial 1 | • | • | | • | | • |
| 31 | B | Deposit around Burial 2 | • | • | • | | | • |
| F32 | A | Stone surface | | | | | | |
| 33 | B | Fill of pipe cut | | | | | | |
| F34 | B | Ceramic pipe | | | | | | |
| F35 | B | Cut of pipe | | | | | | |
| F36 | C | Cast iron pipe | | | | | | |
| 37 | C | Layer of brown silty loam | | | | | | |
| 38 | C | Layer of light brown silty loam with mortar | | | | | | |
| F39 | C | Stone wall | | | | | | |
| 40 | C | Layer of mixed mortar and silty loam | | | | | | |

# Appendix 2: Data tables

## Table 1 The medieval and post-medieval pottery assemblage

| Context | Type | Number | Weight | ENV | Part | Form | Decoration | Date range | Notes |
|---|---|---|---|---|---|---|---|---|---|
| 4 | Buff Sandy ware | 1 | 5 | 1 | BS | U/ID | Green glazed internally | C13th - C14th | Sooted externally |
| 4 | Buff Sandy ware | 1 | 1 | 1 | BS | U/ID | Yellow-green glaze externally | C13th - C14th | |
| 4 | Buff Sandy ware | 1 | 5 | 1 | BS | U/ID | Patchy green glaze | C13th - C14th | |
| 4 | Buff Sandy ware | 1 | 1 | 1 | BS | U/ID | Patchy green glaze externally | C13th - C14th | |
| 4 | Burnt stone | 1 | 11 | 1 | N/A | N/A | N/A | N/A | |
| 4 | Redware | 1 | 5 | 1 | BS | U/ID | Undecorated | C18th - EC19th | |
| 11 | Cane Coloured ware | 1 | 8 | 1 | BS | U/ID | Undecorated | C19th | |
| 11 | Creamware | 1 | 2 | 1 | Rim | Cup/bowl | Undecorated | c.1740 - c.1820 | |
| 11 | Reduced Greenware | 1 | 8 | 1 | BS | U/ID | Green glazed externally | C13th - C15th | Abraded |
| 11 | Reduced Greenware | 1 | 11 | 1 | BS | U/ID | Combed wavy lines | C13th - C15th | Abraded |
| 11 | Reduced Greenware | 1 | 8 | 1 | BS | U/ID | Parallel rouletted bands | C13th - C15th | Abraded |
| 11 | Redware | 3 | 9 | 3 | BS | U/ID | Mottled glaze on red body | C18th - EC19th | |
| 11 | Transfer Printed Whiteware | 3 | 12 | 1 | Rim | Plate | Willow III border | MC19th - LC19th | |
| 11 | Transfer Printed Whiteware | 2 | 2 | 1 | BS | Plate | Willow III border | MC19th - LC19th | |
| 11 | Transfer Printed Whiteware | 1 | 3 | 1 | BS | Plate | Unidentified design | MC19th - LC19th | |
| 11 | Unglazed Red Earthenware | 1 | 2 | 1 | BS | U/ID | Undecorated | C19th | |
| 12 | Unglazed Buff Earthenware | 1 | 24 | 1 | BS | Hollow ware | Undecorated | Post-medieval | An unusual sherd |
| 20 | Reduced Greenware type 3 | 1 | 2 | 1 | BS | U/ID | Undecorated | EC13th - EC14th | Sandy fabric |
| U/S=5 | Redware | 1 | 15 | 1 | Rim | Bowl | Undecorated | LC17th - C18th | Clear glaze internally |
| | **Total** | **24** | **134** | **21** | | | | | |

**Table 2 Roman pottery: comparison of assemblage sizes (excluding unstratified material)**

| **Very small** (less than 10 sherds) | **Small** (between 11 and 35 sherds) | **Medium** (between 36 and 100 sherds) |
|---|---|---|
| 4 groups | 4 groups | 2 groups |

**Table 3 Roman pottery: summary of the dating evidence**

* = post-Roman pottery present;
# = late dish form loosely based on Drag. 36 also present.
Corder refers to Corder 1928, while Crambeck refers to Corder 1937.

| **Context** | **Fabrics** | **Sherds** | **Wt. (g)** | **Forms** |
|---|---|---|---|---|
| 4* | 1-13, 21 | 85 | 1252 | Gillam 160, 161, 229, 231, 284; Crambeck 2a, 5; samian f33, f37 |
| 6* | 2, 6, 9, 10, 14, 15, 20 | 19 | 242 | Gillam 161 |
| 9* | 2, 10, 16, 21 | 4 | 55 | Corder 95; samian f18 |
| 11* | 1, 2, 4, 5, 8, 10, 13, 17, 21 | 30 | 282 | Gillam 159; samian f18/31, f37 |
| 19* | 2, 3, 6, 12, 18, 19, 21 | 14 | 145 | #; Samian f33, f79 |
| 20* | 2, 3, 5, 6, 8-10, 12, 21 | 51 | 765 | Crambeck 1, 2, 2a; Corder 14, 35, 52; Gillam 161, 229-230, 243; samian f37 |
| 24 | 5, 6 | 2 | 29 | - |
| 26 | 2, 4-6 | 6 | 48 | - |
| 30* | 2, 5, 8-10, 17, 21 | 12 | 69 | Gillam 163 |
| 31* | 2 | 2 | 32 | Crambeck 11 |

**Table 4** **Roman pottery: fabrics and sources** (figures also include unstratified pottery) with reference to the National Roman Fabric Reference Collection (Tomber and Dore 1998)

| Fab. code | Fabric name | NRFRC code | Sherds | Wt. (g) |
|---|---|---|---|---|
| 1 | Nene Valley colour-coats | LNV CC | 6 | 41 |
| 2 | Crambeck grey ware | CRA RE | 82 | 1261 |
| 3 | Mancetter-Hartshill white ware | MAH WH | 6 | 241 |
| 4 | BB1 | DOR BB1 | 4 | 26 |
| 5 | Calcite gritted wares | HUN CG | 35 | 495 |
| 6 | Hand-made 'native' wares | - | 14 | 179 |
| 7 | South Spanish amphora | BAT AM 1 | 1 | 6 |
| 8 | Crambeck parchment ware | CRA PA | 7 | 108 |
| 9 | Miscellaneous fine oxidised fabrics | - | 7 | 60 |
| 10 | Miscellaneous sandy grey wares | - | 18 | 221 |
| 11 | Coarse buff ware | - | 1 | 12 |
| 12 | Miscellaneous fine grey wares | - | 28 | 185 |
| 13 | Miscellaneous coarse oxidised wares | | 5 | 83 |
| 14 | Coarse reduced ware | - | 1 | 7 |
| 15 | Unspecified colour-coat | - | 1 | 1 |
| 16 | Fine buff ware | - | 1 | 20 |
| 17 | Local oxidised mortaria | - | 2 | 16 |
| 18 | Dales ware | - | 1 | 6 |
| 19 | Black-surfaced red ware | - | 2 | 21 |
| 20 | Argonne red-slipped ware | ARG RS | 1 | 4 |
| 21 | Samian (all) | | 18 | 135 |

**Table 5 Catalogue of building material by context**

| Context | Type | Fragments | Comments |
|---|---|---|---|
| Unstratified | ?Plaster | 1 | Green wall ?plaster, modern |
| | Mortar | 1 | Featureless |
| | Tile | 1 | Modern fireplace fragment – 19th-20th cent. |
| | Tile (wall tile) | 5 | V. thick flat tile fragments |
| | Tile (box-flue) | 3 | Combed |
| | Tile (imbrex) | 1 | Abraded |
| | Tile (tegula) | 2 | Flat tile |
| | Tile (spall) | 8 | Featureless fragments |
| 4 | Daub | 4 | Featureless fragments |
| | ?Mortar | 4 | 1 with burnt surface, very hard (?post-Roman) |
| | opus signinum | 2 | Tile fragments set in mortar |
| | Plaster | 2 | 1 featureless piece, 1 with smoothed surface with traces of ?paint |
| | Stone | 1 | Burnt with glass-like deposit, probably not structural |
| | Tile (tegula) | 1 | Flange |
| | Tile (wall tile) | 1 | V. thick fragment |
| | Tile (spall) | 7 | Featureless fragments |
| 6 | Plaster | 2 | Pink in colour |
| | Tile (tegula) | 3 | Flat tile |
| | Tile (spall) | 2 | Featureless fragments |
| 11 | Plaster | 5 | 4 featureless fragments; 1 corner, almost flange-like |
| | Slate | 1 | Featureless fragment |
| | Tile (tegula) | 3 | Flat tile |
| | Tile (spall) | 4 | Featureless fragments |
| 19 | Tile (tegula) | 1 | Flat tile |
| 23 | Tile (spall) | 1 | Featureless fragment |
| | Tile (wall tile) | 1 | V. thick flat tile |
| 26 | Tile (spall)<br>Daub | 3<br>2 | Featureless fragments<br>Featureless, not well fired |
| 30 | Tile (spall) | 7 | Featureless fragments |

**Table 6 Animal bone: approximate counts of identified fragments for the species present**

| Species | Trench A | Trench B | Trench C | Trench D | U/S |
|---|---|---|---|---|---|
| Cattle | 29 | 35 | 8 | 13 | 5 |
| Cattle size | 3 | 2 | 3 | 2 | 2 |
| Sheep/goat | 7 | 6 | 8 | 2 | 1 |
| Sheep | 1 | | | | |
| Sheep size | | | | 1 | |
| Pig | 5 | 6 | | 2 | 1 |
| Dog | | | 1 | | |
| Horse | | 1 | 1 | | |
| Red deer | 2 | | | | |
| Roe deer | | | 1 | | |
| Small mammal | | | | 1 | |
| Totals | 48 | 50 | 23 | 20 | 9 |

**Table 7 Animal bone**

| Context | Species | Element | Fusion | Teeth | Comments |
|---|---|---|---|---|---|
| | | | | | |
| Trench A | | | | | |
| | | | | | |
| 19 | cow | fem | Pf | | |
| 19 | cow | uln | | | |
| 19 | cow | vc02 | | | |
| 19 | cow | UM1/2 | | l | |
| 19 | cow size | vl | | | |
| 19 | s/g | LM2 | | :l | |
| 19 | sheep | hc | | | |
| 19 | pig | fem | Dn | | |
| 19 | pig | vl | Cnan | | |
| 19 | horse | tooth | | k | mandibular |
| | | | | | |
| 20 | cow | aph | Pf | | |
| 20 | cow | cal | | | |
| 20 | cow | aph | Pf | | |
| 20 | cow | pat | | | chopped |
| 20 | cow | mt | | | |
| 20 | cow | rad | Df | | |
| 20 | cow | bph | Pf | | |
| 20 | cow | mt | Dn | | |
| 20 | cow | mc | Df | | |
| 20 | cow | jaw | | | |
| 20 | cow | cal | | | |
| 20 | cow | aph | Pf | | |
| 20 | cow | bph | Pf | | |
| 20 | cow | ilm | | | |
| 20 | cow | mt | | | |
| 20 | cow | mt | | | |
| 20 | cow | mt | | | |
| 20 | cow | hum | Df | | |
| 20 | cow | cal | | | |
| 20 | cow | LM3 | | ;l | |
| 20 | cow | LM1/2 | | k | |
| 20 | cow | UM1/2 | | l | |
| 20 | cow | UM1/2 | | l | |
| 20 | cow | UPM2 | | 6k | |
| 20 | cow | UPM2 | | 6l | |
| 20 | cow size | vsb | Cnan | | |
| 20 | cow size | vc | Cfaf | | |
| 20 | deer? | bph | | | prob red, not cattle |

| Context | Species | Element | Fusion | Teeth | Comments |
|---|---|---|---|---|---|
| 20 | deer | antler | artefact, hollowed out ring prob from beam | | |
| 20 | s/g | LM1 | | 9b | |
| 20 | s/g | LM1/2 | | l | |
| 20 | s/g | LM3 | | ;l | |
| 20 | s/g | UM1/2 | | k | |
| 20 | s/g | UM1/2 | | k | |
| 20 | s/g | acet | | | |
| 20 | pig | scap | | | |
| 20 | pig | LM1 | | b | |
| 20 | pig | UPM | | l | |
| | | | | | |
| Trench B | | | | | |
| | | | | | |
| 4 | cow | rad | pf | | chopped |
| 4 | cow | mc | | | |
| 4 | cow | scap | df | | chopped |
| 4 | cow | tib | df | | |
| 4 | cow | mc | df | | |
| 4 | cow | aph | pf | | |
| 4 | cow | aph | pf | | |
| 4 | cow | ast | | | |
| 4 | cow | mt | df | | chewed |
| 4 | cow | aph | pf | | |
| 4 | cow | tib | df | | |
| 4 | cow | pat | | | |
| 4 | cow | scap | | | |
| 4 | cow | tib | pf | | |
| 4 | cow | aph | | | |
| 4 | cow | fem | pn | | |
| 4 | cow | ish | | | chopped |
| 4 | cow | car r | | | |
| 4 | cow | rad | | | |
| 4 | cow | aph | pf | | |
| 4 | cow | mt | | | |
| 4 | cow | aph | pf | | |
| 4 | cow | cph | | | |
| 4 | cow | UM3 | | ;k | |
| 4 | cow | UM1/2 | | k | |
| 4 | cow | LM3 | | ;k | |
| 4 | cow | LM3 | | ;k | |
| 4 | cow | LM1 | | 9k | |
| 4 | cow | LM1 | | 9k | |
| 4 | cow | LM1 | | 9k | |
| 4 | cow | LM2 | | :k | |

| Context | Species | Element | Fusion | Teeth | Comments |
|---|---|---|---|---|---|
| 4 | cow | LM2 | | :k | |
| 4 | cow size | vl | cfaf | | |
| 4 | cow size | vc | | | chopped |
| 4 | s/g | jaw | | sk | |
| 4 | s/g | jaw | | 89:;k | |
| 4 | s/g | LM2 | | :k | |
| 4 | s/g | UM1/2 | | k | |
| 4 | s/g | rad | | | |
| 4 | s/g | rad | | | |
| 4 | pig | hum | df | | |
| 4 | pig | mc3 | dn | | |
| 4 | pig | scap | | | |
| 4 | pig | scap | | | |
| 4 | pig | jaw | | 789:l | |
| 4 | pig | max | | 67l | |
| 4 | hor | UPM2 | | 6k | |
| | | | | | |
| 30 | cow | UPM3 | | 7k | |
| | | | | | |
| 31 | cow | vc01 | | | |
| 31 | cow | UPM3 | | 7l | |
| | | | | | |
| Trench C | | | | | |
| | | | | | |
| 9 | cow | LM1/2 | | k | |
| 9 | cow size | vt | | | |
| 9 | cow size | vl | | | |
| | | | | | |
| 11 | cow | hum | df | | |
| 11 | cow | hum | df | | |
| 11 | cow | ilm | | | chewed |
| 11 | cow | LM3 | | ;k | |
| 11 | cow | LM3 | | ;k | |
| 11 | cow | UM1/2 | | k | |
| 11 | cow | UPM | | b | |
| 11 | cow size | vl | cf | | |
| 11 | s/g | tib | df | | |
| 11 | s/g | tib | | | |
| 11 | s/g | tib | | | |
| 11 | s/g | uln | | | |
| 11 | s/g | hum | df | | |
| 11 | s/g | rad | pj | | large, prob post-med |
| 11 | s/g | LM1/2 | | l | |
| 11 | hor | LM3 | | | |

| Context | Species | Element | Fusion | Teeth | Comments |
|---|---|---|---|---|---|
| 11 | dog | jaw | | | |
| 11 | roe | tib | df | | |
| 11 | s. mam | fem | pf | | rat/w. vole or larger |
| | | | | | |
| 12 | s/g | tooth | | | frag |
| | | | | | |
| Trench D | | | | | |
| | | | | | |
| 6 | cow | mc | | | |
| 6 | cow | tib | dn | | |
| 6 | cow | aph | pf | | |
| 6 | cow | mt | df | | |
| 6 | cow | LM1/2 | | k | |
| 6 | cow | LM1/2 | | k | |
| 6 | cow | UPM2 | | 6k | |
| 6 | s/g | ish | | | |
| 6 | s/g | jaw | | | |
| 6 | pig | tib | dn | | |
| 6 | pig | LC | | | female |
| | | | | | |
| 23 | cow | acet | | | |
| | | | | | |
| 24 | s/g size | vl | | | |
| | | | | | |
| 26 | cow | ast | | | |
| 26 | cow | hum | | | |
| 26 | cow | pub | | | |
| 26 | cow | mc | df | | |
| 26 | cow | mt | df | | |
| 26 | cow size | vc | cnan | | |
| 26 | cow size | vl | an | | |
| | | | | | |
| U/S | cow | rad | dn | | |
| U/S | cow | uln | | | |
| U/S | cow | jaw | | | |
| U/S | cow | jaw | | | |
| U/S | cow | rad | pf | | |
| U/S | cow size | vt | | | |
| U/S | cow size | vt | | | |
| U/S | s/g | scap | | | |
| U/S | pig | tib | pn | | |

**Table 8 The glass**

| Context | Trench | Form | Colour | Thickness | Description |
|---|---|---|---|---|---|
| 4 | B | Vessel | Colourless | 1mm | Slight opaque surface, thin curved body fragment. Roman. |
| 4 | B | Window | Blue-green | 2mm | Roman window glass |
| 4 | B | Vessel | Blue-green | 3mm | Pitted and opaque surface, curved vessel body from possible bottle or flask. Roman. |
| 4 | B | ?Vessel/Window | Olive-green | 5mm-4mm | Slight curve visible but virtually flat. Bubbles visible. One end thicker than other. Late Roman? |
| 5 | D | Vessel | Colourless | 5mm | Possibly base of small bottle. Roman. |
| 5 | D | Window | Colourless | 7mm | One side smooth other side rippled surface effect. Modern |
| 5 | D | Window | Green | 2mm | Roman window glass |
| 6 | D | ?Vessel/Window | Pale green | 1mm | Flat fragment. |
| 9 | C | Window | Colourless | 4mm | Modern |
| 11 | C | Vessel | Green | 4mm | Bubbles and elongated bubbles visible. Curved body fragment from possible Roman bottle. Free-blown technique? |
| 11 | C | Window | Colourless | 3mm | Possibly modern |
| 11 | C | ?Vessel/Window | Colourless | 1mm | Flat. Bubbles visible. Possible vessel body fragment. Roman |
| 11 | C | Vessel | Green tinge | 7mm | Rim with protruding outer ridge on one side. From square flask or bottle? Roman. |
| 19 | A | Window | Pale olive-green | 4mm | Rim-edge of window glass produced by matt-glossy process. Roman. |
| 19 | A | Window | Light green | 3mm | Window glass. Smooth side and pitted side indicative of 'matt-glossy' process. Roman. |
| 26 | D | ?Window/Vessel | Pale green | 1mm | Flat. Weathered surface. Roman. |
| 30 | B | Vessel | Colourless | 3mm | Possible base to small Roman vessel. |

**Table 9 The metalwork**

| Context | Material | Object | Quantity | Observations |
|---|---|---|---|---|
| A19 | Fe | nails | 4 | |
| A20 | Fe | nails, slag, looped object | 8 | |
| B4 | Fe | nail | 1 | |
| B4 | Fe | nail | 1 | |
| B4 | Fe | nails | 2 | ?modern |
| B4 | CuA | coin | 1 | |
| B4 | CuA | stud | 1 | |
| B31 | Fe & CuA | nail + ? | 2 | |
| B31 | ?shale | bangle fragment | 1 | |
| C9 | Fe | nails | 2 | |
| C11 | Fe | nails. slag | 4 | |
| C11 | CuA | coin | 1 | |
| D5 | Fe | nail, bar fragment | 2 | modern – includes plastic strip |

**Table 10 The industrial waste**

| Context | Object | No. | Observation |
|---|---|---|---|
| B4 | Slag | 4 | Dense relatively heavy fragments with convoluted and bubbly texture. Orange-brown discoloration indicative of iron content |
| B4 | Slag | 4 | Lighter glassy consistency. Bubbly and smooth texture seen in the examples |
| B4 | Fuel? | 1 | ?Coal or coke fragment |
| C11 | Slag | 1 | Glassy slag fragment – purple-black colour on one smooth/bubbly side. Other side rough and matt brown in colour. |

**Table 11 Conservation assessment**

| Ctxt | Material | Object | Condition | No | Observations | XR |
|---|---|---|---|---|---|---|
| A19 | iron | nails | hc/st | 4 | | 5375 |
| A19 | glass | fragment with rounded edge | st | 1 | | none |
| A20 | iron | nails, slag, looped object | mc/hc/st | 8 | | 5375 |
| B4 | iron | nail | hc/st | 1 | | 5375 |
| B4 | iron | nail | hc/st | 1 | | 5376 |
| B4 | iron | nails | lc/st | 2 | ?modern | 5376 |
| B4 | cua | coin | hc/st | 1 | | 5377 |
| B4 | cua | stud | mc/st | 1 | | 5377 |
| B4 | glass | fragment | st | 1 | | none |
| B4 | glass | fragments | st | 2 | | none |
| B4 | glass | fragment | st | 1 | | none |
| B30 | glass | fragment | st | 1 | | none |
| B31 | iron & copper alloy | nail + strip | mc/st | 2 | | 5377 |
| B31 | ?shale | bangle fragment | st | 1 | | none |
| C9 | iron | nails | mc/st | 2 | | 5377 |
| C9 | glass | fragment | st | 1 | | none |
| C11 | iron | nails, slag | mc/st | 4 | | 5376 |
| C11 | glass | fragments | st | 4 | | none |
| C11 | copper alloy | coin | hc/st | 1 | | 5377 |
| D+ | glass | fragments | st | 4 | | none |
| D4 | iron | nail, bar fragment | mc/st | 2 | ?modern – includes plastic strip | 5376 |
| D6 | glass | fragment | st | 1 | | none |
| D26 | glass | fragment with curved edge | slight weathering | 1 | | none |

*lc – lightly corroded mc – moderately corroded hc – highly corroded st - stable*

## Table 12 Contexts yielding human remains

| Context | Description | Bone fragments | Bone elements | Minimum no. of individuals |
|---|---|---|---|---|
| **Trench B** | | | | |
| Context 4 | Brown silty clay matrix containing human charnel | 13 | 13 | 1 Adult |
| Context 30 | Soil surrounding Burial 1 | 3 | 3 | 1 Adult |
| Context 31 | Soil surrounding Burial 3 | 2 | 2 | 2 1 Adult 1 Child |
| | **Total Trench B** | **18** | **18** | **2 1 Adult 1 Child** |
| **Trench C** | | | | |
| Context 9 | Mixed silt clay deposit, containing rubble and ceramic pipe inclusions | 1 | 1 | 1 Adult |
| Context 11 | Medium brown silty loam containing slate, pottery and animal bone | 1 | 1 | 1 Adult |
| | **Total Trench C** | **2** | **2** | **1 Adult** |
| **Trench D** | | | | |
| Context 5 (U/S) | Topsoil - disturbed archaeological deposits, containing animal bone and pottery | 7 | 4 | 1 Adult |
| Context 6 | Dark brown soil, between topsoil and archaeological deposits, containing animal bone and pottery | 24 | 22 | 2 Adults |
| Context 26 | Dark brown loam filling a gully (feature 27), containing pottery and human bone | 1 | 1 | 1 Adult |
| | **Total Trench D** | **32** | **27** | **2 Adults** |
| | **Grand total:** | **52** | **47** | **4 3 Adults 1 Child** |

**Table 13 Catalogue of human bone remains**

**Context 4 (Trench B)**
Twelve fragments of bone from twelve bone elements, and one tooth.
Minimum number of individuals =1

| Bone Element | Side | Part of Element |
|---|---|---|
| Parietal | Left | Fragment |
| Cranial vault – Parietal/Frontal? | ? | Fragment |
| Parietal | ? | Fragment |
| Upper permanent canine (LC1) | Left | |
| Scapula | Right | Glenoid fossa (inferior halt) and axial border |
| Humerus | Left | Upper third of midshaft |
| Femur | Right | Upper third of midshaft |
| Tibia | Left | Shaft fragment, lateral side and anterior border |
| Tibia | Left | Shaft fragment, posterior side and part of lateral side |
| Unidentified long bone | ? | Shaft fragment |
| Unidentified long bone | ? | Shaft fragment |
| Rib | ? | Shaft fragment |
| Second rib | Right | Tubercle, angle and part of shaft |

**Context 5 *U/S* (Trench D)**
Seven fragments of bone from four bone elements.
Minimum number of individuals =1

| Bone Element | Side | Part of Element |
|---|---|---|
| Lumbar vertebra | | Two fragments: body and right transverse process; and neural arch (laminae and inferior apophyseal facets). Schmorl's node present on superior surface of body; inferior surface damaged |
| Scapula | Right | Glenoid fossa (superior missing), superior part of axial border, and small part of spine |
| Cranial vault - Parietal? | ? | Fragment |
| Os coxa | Right? | Part of ilium, region of ASIS; two flakes of bone probably come from this element |

**Context 6 (Trench D)**
Twenty-four fragments of bone from twenty-two bone elements.
Minimum number of individuals = 2 (os coxa)

| Bone Element | Side | Part of Element |
|---|---|---|
| Cranial vault | ? | Fragment |
| Two cervical vertebrae | | Neural arches damaged and spinous processed lost. Fused together - congenital/trauma? |
| Lumbar vertebra | | Right half of body and neural arch |
| Vertebra (Lumbar?) | | Fragment of body. |
| Rib (3-9) | Right | Tubercle and angle |
| Rib (3-9) | Right | Head to angle |
| Rib | Left | Neck and tubercle |
| 10th Rib | Left | Head to angle |
| Rib | Left | Angle and part of shaft |
| Clavicle | Left | Acromial end missing |
| Scapula | Right | Glenoid fossa, acromion process, part of axial border and coracoid process |
| Intermediate hand phalanx | ? | |
| Os coxa | Left | Auricular surface and part of ilium. Age-at-death c. 40-50 years |
| Os coxa | Left | Three fragments: part of ilium and iliac crest, ASIS; lateral part of auricular surface and greater sciatic notch; medial part of auricular surface and greater sciatic notch. Age-at-death c. 40+ years. Sex possibly female |
| Femur | Left | Proximal end - anterior part of greater trochanter |
| Femur | ? | Part of head |
| Femur | Right | Proximal end, neck and head missing. Shaft appears swollen, especially on the posterior side, with irregular, plaques and spicules of lamellar bone along the region of the gluteal line. Medullary cavity infilled with many trabeculae and denser patches of bone. Infection. |
| Femur | Right | Distal end - lateral condyle |
| Femur | ? | Distal end - condyle |
| Tibia | Right | Proximal end, medial condyle present, lateral missing |
| Second Metatarsal | Left | Distal end missing |
| Unidentified long bone | ? | Femur? Tibia? |

**Context 9 (Trench C)**
One bone fragment from one bone element.
Minimum number of individuals = 1

| Bone Element | Side | Part of Element |
|---|---|---|
| Scapula | Left | Axial border |

**Context 11 (Trench C)**
One bone element from one bone element.
Minimum number of individuals = 1

| Bone element | Side | Part of element |
|---|---|---|
| Humerus | Left | Distal third midshaft |

**Context 26 (Trench D)**
One bone fragment from one bone element. Minimum number of individuals = 1

| Bone Element | Side | Part of Element |
|---|---|---|
| Humerus | Left | Distal two-thirds of shaft with distal joint surface (damaged) |

**Context 30 (Trench B)**
One bone fragment from one bone elements, and two teeth.
Minimum number of individuals = 1

| Bone Element | Side | Part of Element |
|---|---|---|
| Cranial vault | ? | Fragment |
| Upper first permanent incisor (RI1) | Right | Root much eroded. Slight dentine exposure: Age-at-death c.18-22 years |
| Upper first permanent molar (LM1) | Left | Cusps slightly worn, no dentine exposure. Age-at-death c.17-25 years |

**Context 31 (Trench B)**
One bone fragment from one bone element, and one tooth.
Minimum number of individuals = 2

| Bone Element | Side | Part of Element |
|---|---|---|
| Occipital and parietal | Left | Apex and left part of squamous portion of occipital, and posterior part of left parietal |
| Lower deciduous first molar (Rdm1) | Right | Crown only, root broken post-mortem. Age-at-death between 1.5-10 years, but probably in the younger end of this age range as wear is very slight. |

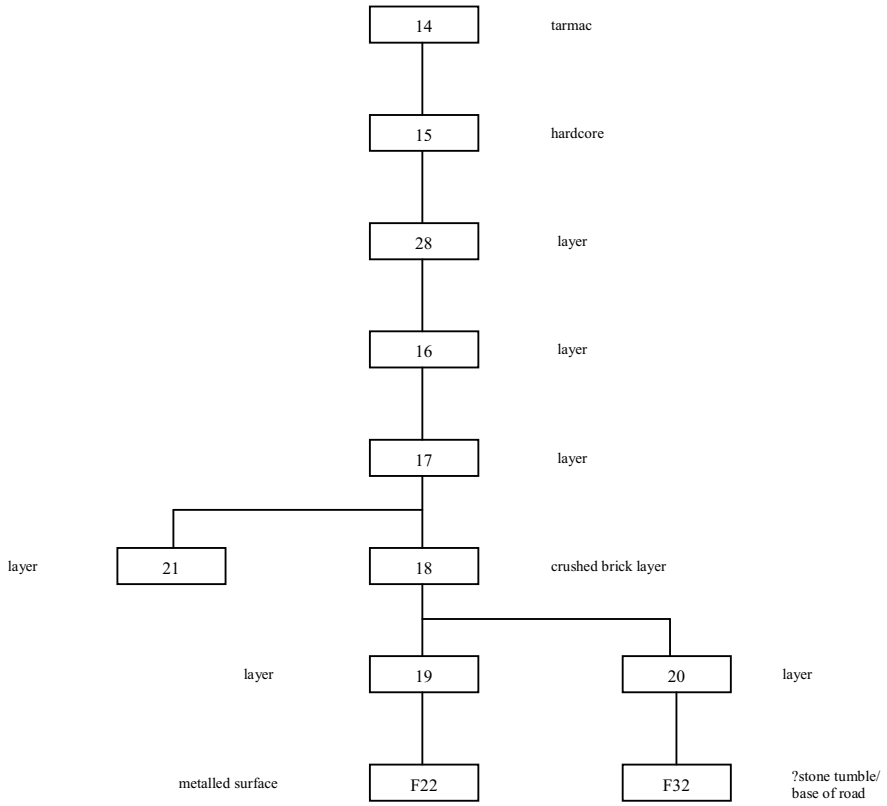
**Table 14 Contents of the flots from BNH05.**

| **Sample** | **1** | **2** |
|---|---|---|
| **Context** | **26** | **24** |
| *Volume processed (ml)* | 5000 | 5000 |
| *Volume of flot (ml)* | 100 | 50 |
| *Volume of flot assessed (ml)* | 100 | 50 |
| *Residue contents (relative abundance)* | | |
| Metal dust | 1 | 1 |
| *Flot matrix (relative abundance)* | | |
| Charcoal | 1 | 1 |
| Clinker/cinder | 1 | - |
| Coal | 1 | - |
| Insect | 1 | - |
| Modern roots | 2 | 2 |
| *Charred remains (relative abundance)* | | |
| (c) *Avena* spp grain (Oat species) | 1 | - |
| (c) *Hordeum* sp (Barley undifferentiated) | 1 | - |
| *Waterlogged remains (total counts)* | | |
| (r) *Cirsium* sp (Thistle) | 1 | - |

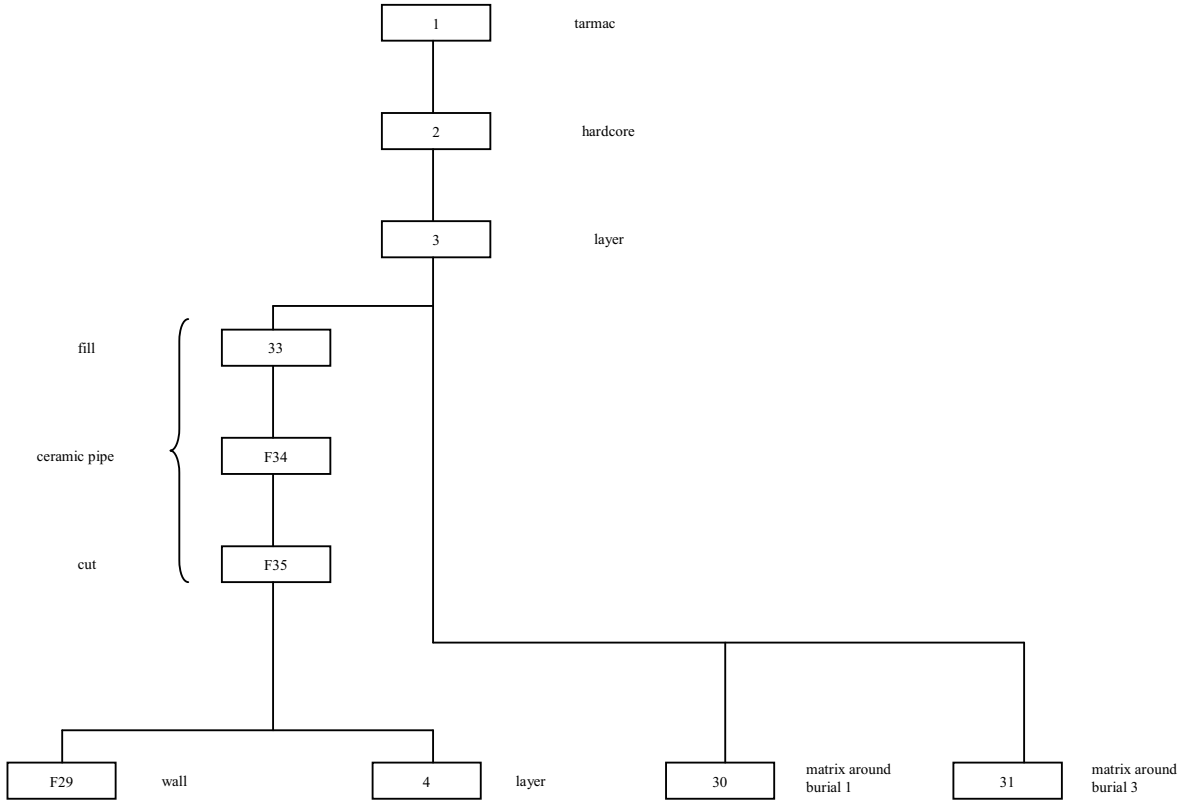
(c: cultivated plant; r: ruderal)
Relative abundance is based on a scale from 1 (lowest) to 5 (highest).

# Appendix 3: Stratigraphic matrices

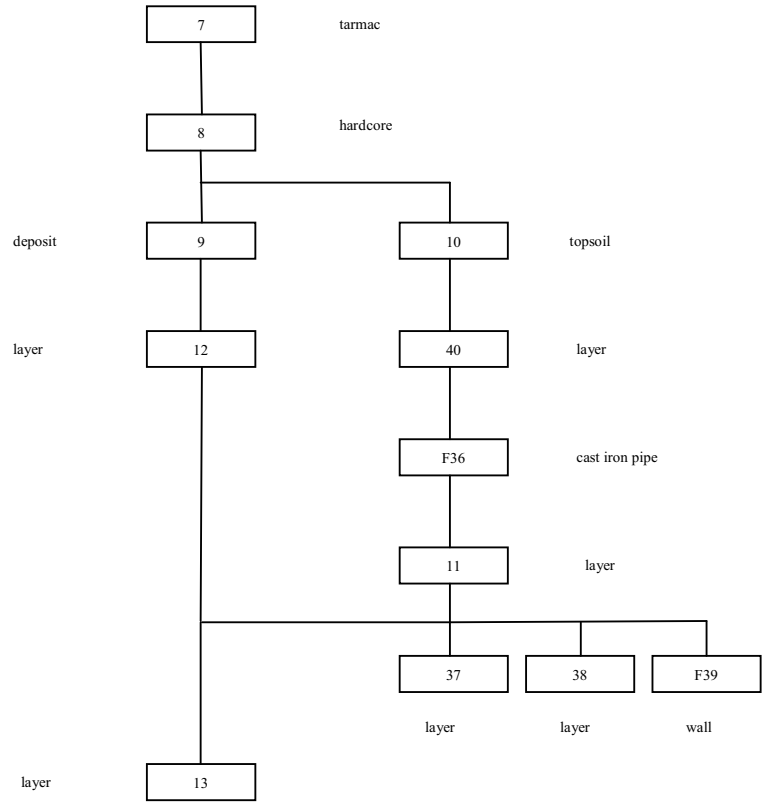
## Trench A



## Trench B


1
tarmac
2
hardcore
3
layer
fill
33
ceramic pipe
F34
cut
F35
F29
wall
4
layer
30
matrix around burial 1
31
matrix around burial 3

## Trench C




## Trench D

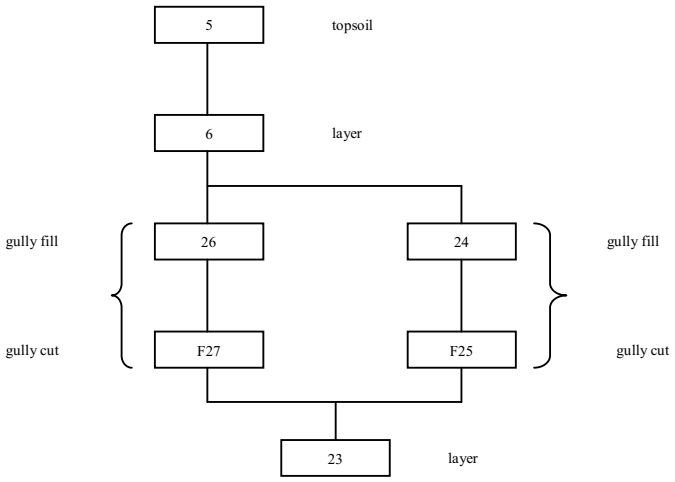


***Figure 10***
Trench A, eastern half, with metalling F22 in foreground and layer 19 in background. Looking east.

***Figure 11***
Trench A, western half, showing stone surface, possible road base F32. Looking west.

***Figure 12***
Trench B showing layer context 4, looking south.

***Figure 13***
Trench B, wall F29 with pipe fill 33/F34/F35 in middle, looking east.

***Figure 14***
Trench B, Burial 1, looking north.

***Figure 15***
Trench B, Burial 3, looking north-west.

***Figure 16***
Trench C, showing wall F39, deposit 38 around stones, layer 37 and cast iron pipe F36. Looking west.

***Figure 17***
Trench D looking east.

***Figure 18***
Trench D, gullies F27 (near) and F25, looking south