



YORK ARCHAEOLOGICAL TRUST



ROMAN OCCUPATION AT THE SITE OF THE FORMER STARTING GATE PUBLIC HOUSE, 42-50 TADCASTER ROAD, DRINGHOUSES, YORK, UK

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ABOUT THIS PDF

In 2003 York Archaeological Trust undertook excavations at the site of the former Starting Gate Public House, 42-50 Tadcaster Road, Dringhouses, York. The excavations uncovered remains of Roman date.

This Pdf report represents a copy of a report which was designed as an interactive web report which was originally hosted on York Archaeological Trust's website. Due to changes in the design of this website the original interactive report is no longer available. This Pdf was produced to ensure that the information held in the original report remained widely available.

As the original report was designed for web-viewing, its' design did not follow conventional publication formats. There were therefore some problems when converting the web based publication into Pdf format. Firstly, the figures, which though perfectly clear when viewed on the web became slightly blurred when transferred into Pdf format. In addition, there were no Figure or Plate numbers in the web-text, as the images in question were originally simply embedded in the web-text at the relevant point; the images have therefore been placed as close to their original position in as possible within the Pdf. This Pdf follows the layout of the original web report as far as possible, though a more formal structure had to be imposed with headings and sub headings etc. Readers should bear these limitations in mind while reading the report.

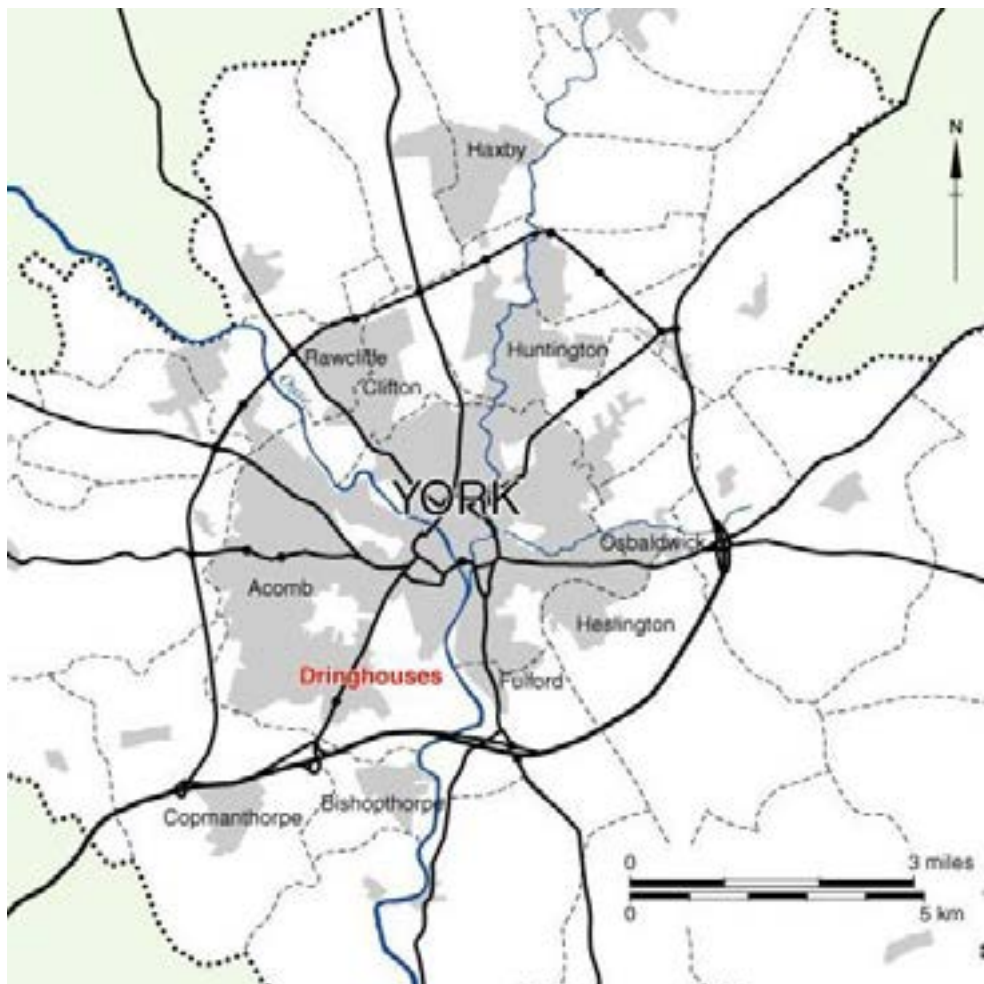
The conversion of the original IADB report into a Pdf file was undertaken by J. M. McComish in July 2018.

1 INTRODUCTION

By Jane McComish

Between 22 September and 24 October 2003 York Archaeological Trust (YAT) undertook an archaeological excavation, directed by the author, at the site of the former Starting Gate public house at 42–50, Tadcaster Road, York (NGR:SE58694966). The excavation was undertaken on behalf of Hearthstead Homes and consisted of two trenches as required by a specification prepared by the Principal Archaeologist for City of York Council. The site records are currently stored by YAT under the Yorkshire Museum accession code YORYM:2003.303.

Most of the remains uncovered were of Roman date. These consisted of part of the Roman road running from York to Tadcaster, together with associated roadside ditches, a number of other ditch cuts, three burials, the foundations of a large Roman building, traces of smaller buildings and an extensive cobbled surface. There were a few post-Roman features including two ditches of medieval date and an early 20th-century paddling pool. The site was severely truncated during the 20th century during the construction of The Starting Gate public house.



Location plan of Dringhouses



Location of the present excavation and previous archaeological investigations



Cleaning a Roman cobble surface (left), excavating a Roman building (centre), the excavation team (right)

2 THE ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

By Jane McComish

Dringhouses, formerly a village c.3.5 km from York, is now a suburb of the city. A number of excavations in the area have yielded finds of interest (click here for locations). The earliest evidence for human activity in the Dringhouses area consists of five Neolithic stone axes found on a number of separate occasions (Macnab 1998, 4). There is little else from the prehistoric period except for some sherds of possible late Iron Age date found in excavations at The Fox (now The Fox and Roman) public house immediately to the south-west of the present site. The major Roman approach road to York from Tadcaster to the south-west (RCHMY1, 3; Road 10) was constructed running along the glacial moraine (i.e. aligned north-east/south-west). The line of the present day Tadcaster Road (A64) corresponds closely to that of the Roman road; indeed the two roads follow the same line from the junction between Slingsby Grove and Tadcaster Road, located roughly 160m to the south-west of the Starting Gate site, as far as the

former York City boundary. In *Eburacum* (RCHMY1) the modern road is shown veering slightly to the east of the Roman road alignment to the north of Slingsby Grove. The Roman road, apparently lying to the north-west of the present day road, has been seen north-east of the Starting Gate at St Helen's Road close to the junction with Tadcaster Road, and at 304, 278 and 234 Tadcaster Road (The White House) (Ottaway, in prep.). On the basis of the location plan for the Roman road given by the Royal Commission, a cobble surface seen in Trench 3 of the trial excavations at the Starting Gate site was interpreted as being part of the Roman road (Hunter-Mann 1996, 6). This clearly needs to be re-evaluated in the light of the results of the present excavations which show that the Roman road is largely beneath the present Tadcaster Road at least as far north as The Starting Gate site (see Phase 3).

A number of Roman burials located alongside the Roman road have been recovered in Dringhouses. These include a small cemetery near the junction of St Helen's Road with Tadcaster Road, a stone coffin from the yard of the Cross Keys Inn and four other stone coffins from Dringhouses which were found in the 18th and 19th centuries (RCHMY1, 107). A further Roman burial was excavated at The Fox public house, which was renamed The Fox and Roman in its honour (Macnab 1997, 29). This burial was aligned north-east/south-west, i.e. parallel to the Roman road (Ottaway, in prep.). In addition, a pottery face vase from the St Helen's Road area may have originally been from a burial (RCHMY1, 107).



*Carved tombstone relief of a smith
York Museums Trust (Yorkshire Museum)
Accession Number YORYM:1998.20*

Evidence for Roman structural activity in the area was recovered during the trial trench excavations on The Starting Gate site in 1996 (Plan 2). A cobble surface and two post-holes in Trench 2 were interpreted as a path or yard to the south-east of the Roman road, together with part of a roadside building. Post-holes and a gravel surface in Trench 1 were interpreted as the remains of two separate buildings with their gable ends fronting onto the north-west side of the Roman road (Hunter-Mann 1996, 15–16). Also present in Trench 1 was a deposit of slag indicating industrial activity on the site. It is of interest that a carved relief of a smith was found in 1860 in the grounds of Dringhouses Manor House (opposite The Starting Gate site); while this is most likely a tombstone, it could also be a representation of the god Vulcan (Ottaway, in prep.). This tombstone can be seen at the Yorkshire Museum.

Elsewhere in Dringhouses a number of sites have yielded evidence of Roman activity, but this largely takes the form of ditches and paths. On land to the rear of 52-60 Tadcaster Road there were a number of Roman features including ditches, cuts and a possible construction cut for a building (Finlayson 1995, 8, 12). Two of the ditches were aligned north-east to south-west, i.e. parallel to the main Roman road (Ottaway, in prep.). Investigations at 27 St Helen's Road uncovered Roman ditches aligned at 90 degrees to the Roman road (Macnab 1998, 8). At The Fox public house a number of ditches and gullies and a cobbled surface were present. While some were aligned in relation to the Roman road, others were on an east-north-east to west-south-west alignment (Ottaway, in prep.).

Little is known historically about the area from Roman times to the Anglo-Norman period. The settlement is not mentioned in Domesday (www.domesdaybook.co.uk) but the place-name Dringhouses is thought to derive from the Old English 'dreng', meaning a free tenant holding land by tenure older than the Norman Conquest, or from the old Norse 'drenge' meaning a young man or servant (Hunter-Mann 1996, 3). This may imply pre-Conquest occupation in the area. From the Norman Conquest onwards the land within the village was owned by the manors of Dringhouses and Bustardthorpe. Ecclesiastically the village belonged mainly to Holy Trinity, Micklegate, but partly to St Mary Bishophill Senior (RCHMY3, 116) which claimed tithes from the village up to the 18th century. The village seems to have been primarily agricultural and it is clear that its land was subdivided into typical long, narrow medieval fields aligned at right angles to Tadcaster Road. This pattern of land use is shown on Samuel Parsons' 1629 map depicting land ownership in Dringhouses, and continued until enclosure of land in the parish in 1835 (RCHMY3, 116). A medieval ditch and deposits interpreted as being of agricultural origin were present at 27 St Helen's Road (Noel et al. 1994, 8 and Macnab 1998, 8); medieval pottery from The Starting Gate evaluation was interpreted as relating to use of the area as arable land (Hunter-Mann 1996, 16-17).

A number of maps of Dringhouses were produced by the Ordnance Survey (OS) from the late 19th century onwards. The 1892 1:2500 map shows an inn where The Fox and Roman public house (formerly The Fox) is located. To the south-west of the inn was Manor Farm, while to the north-east of the inn was a school (on the site of the present library). The site of The Starting Gate and the land immediately north-west of it consisted of rectangular fields. By 1909 (OS 1:2500 map) St Helen's Road had been constructed and the school had become a reading room but otherwise the pattern of land use remained unaltered. By 1931 (OS 1:2500 map) the fields on The Starting Gate site had been divided into two properties and a large house had been constructed on the north-eastern portion. In addition, a bowling green and racing stables were present opposite Manor Farm. By 1936 (OS 1:2500 map) a series of tennis courts and croquet grounds had been built fronting onto St Helen's Road and extending to the immediate north-west of The Starting Gate site. This pattern remained unaltered on the 1938 OS 1:2500 map. Post-war development in the area has seen the expansion of suburban housing within the parish.

3 THE EXCAVATIONS



It has long been known that the village of Dringhouses, which lies 3.5km from the centre of York, is the site of a Roman settlement adjacent to a major Roman road running from York to Tadcaster. In autumn 2003 York Archaeological Trust undertook an archaeological excavation at the site of the former Starting Gate public house at 42–50, Tadcaster Road, York (NGR SE 5869 4966). The excavation was funded by the developers of the site, Hearthstead Homes. The excavations proved to be highly successful, yielding the remains of a large Roman building interpreted as a *mansio*, together with part of the adjacent major Roman road and associated ditches. In addition, various other features, mainly of Roman date, were excavated including ditches, burials, pits and an extensive cobble surface. One very unusual find from the site was a whale vertebra from a Roman context that had been used as a chopping block. In addition to these significant Roman remains, there were a few post-Roman features including two ditches of medieval date and an early 20th-century paddling pool. The site was severely truncated during the 20th century as a result of the construction of The Starting Gate public house.



3.1 Methodology

By Jane McComish

The excavation consisted of two trenches. Trench 1 was located adjacent to the Tadcaster Road street frontage and was 40m x 20m in size. A strip within Trench 1 measuring 6m x 20m was left unexcavated, as modern services had destroyed the underlying archaeological deposits. Trench 2 was located between 11m and 16m to the north-west of Trench 1, and was 39m long and up to 20m wide.

Both trenches were stripped using a 360 degree tracked mechanical excavator under close archaeological supervision. The overburden consisted of modern deposits including limestone hardcore, building foundations, modern service trenches and levelling dumps. In some parts of Trench 1 it proved impossible to remove the foundations of The Starting Gate public house, as this would have caused severe damage to adjacent archaeological deposits. Following the machine clearance of the site, the archaeological remains were excavated using a single-context recording system. Most of the features were cleaned and excavated using trowels, but some of the Roman foundation trench backfills and cobble surfaces had to be excavated using

mattocks and pick-axes as the deposits in question were too compact to be excavated in any other way. At least one cross-section was excavated through all of the linear features on the site in order to obtain a profile and to recover dating evidence. Non-linear features were either half-sectioned or fully excavated. Most of the features were recorded on 1:50 plans, but detailed representative portions of all cut features and linear features such as cobble surfaces were planned at 1:20. A series of colour photographs was taken. A programme of soil sampling was undertaken as agreed with the English Heritage Regional Science Adviser.

3.2 Geology and Topography

By Jane McComish

The site lies at between 16.05m and 16.98m above Ordnance Datum (AOD) and is situated approximately 3km south-west of the centre of York. The site is surrounded on the north-west, north-east and south-west sides by buildings, while to the south-east lies Tadcaster Road.

The site lies on a glacial moraine which runs from the centre of York through Dringhouses to Copmanthorpe. The underlying solid geology of the area is Bunter Sandstone (British Geological Survey, England and Wales, Sheet N. 71 1973).

3.3 The Excavation

By Jane McComish

The presence of a Roman suburb in Dringhouses had been known of since the 19th century, and The Starting Gate excavations added greatly to the understanding of this settlement. The excavations uncovered a sequence of intense Roman development ranging from the late 1st century to c.225, after which occupation of the area clearly rapidly declined. Among the most important discoveries were clarification of the precise alignment of the major Roman road between York and Tadcaster, together with the foundations of a major Roman roadside building interpreted as a possible *mansio*. The most important aspect of the finds recovered from the site was an excellent collection of Roman pottery, notably large quantities of amphorae. The development of the site is summarised in The Deposit Sequence, and the significance of the excavation is examined in The Interpretation of the Site. The methodology is discussed in Method, Geology and Topography.

3.3.1 *The Deposit Sequence*

The natural deposits on site (Phase 1) consisted of glacially deposited clay and sand, the upper surface of which had been disturbed either by plant roots or possibly by later ploughing.

The only potential evidence for prehistoric activity took the form of an adult female inhumation burial in a crouched position (Phase 2). It is possible that the burial is late Iron Age in date, as crouched burials are known from the Arras culture of East Yorkshire. The burial was, however, aligned north-west/south-east, i.e. at right angles to a Roman road, which may imply a relationship between the burial and the road. It must be noted however that the two other burials from this site and the burial from The Fox public house nearby (Macnab 1997, 8) were aligned parallel to the Roman road, i.e. north-east/south-west. The only firm date that can be given to the burial is that its head was removed by the foundations of a building dating to c. AD 150–200. The burial could therefore be either late prehistoric or early Roman in date.



Phases 1-3 in Trench 2 (Phase 1 natural sand yellow, silty-sand dark green, Phase 2 burial visible just below the key close to the north-eastern edge of the trench, Phase 3 ditch cut 1011 dark brown, other ditches pale green, Pit 1156 mauve, Modern intrusions grey)



Phases 1 and 3 in Trench 1 (Phase 1 natural sand yellow, silty-sand dark green, Phase 3 ditch cut 1011 dark brown, other ditches pale green, Pit 1156 mauve, Modern intrusions grey)



Phase 2 burial

The earliest Roman activity on the site dated to between the late 1st century and AD 150 (Phase 3). The major event in this phase was the construction of the Roman road from Tadcaster to York (RCHMY1; Road 10). As stated in Phase 3, the present excavations have clarified the position of the Roman road in this area. Initially a 1.2m wide ditch was excavated (Context 1011) which may have represented an attempt to demarcate the initial line of the road. This ditch was partially infilled before the construction of the road surface. The road surface (Contexts 1005 and 1149) was up to 0.32m thick, but was originally thicker (the upper surface having been removed by 20th-century levelling). Approximately 1.5m to the north-west of the road surface was a roadside ditch (Context 1045), and 0.80m to the north-west of the ditch was a narrow gully, 0.20m wide and 0.06m deep, interpreted as a setting-out line (Context 1018). It is possible that the earlier ditch (Context 1011) which was located directly between the road surface and ditch 1045, may still have been in use at this stage. If this were the case there would effectively have been a double ditch to the north-west of the road. The roadside ditch 1045 was later re-cut (Context 1037).



The Roman road and ditches

There was clearly some activity to the north-west of the Roman road during the late 1st to early 2nd century, though this seems to have been on a fairly limited scale and mainly comprised ditches which were either property boundaries or for drainage. In addition to ditches there was a large undated cut (Group 3), interpreted as being of early Roman date; its precise function is unclear. Industrial activity in the form of metalworking and horn working is implied by the presence of fired clay furnace lining fragments and a horn core. Considerable quantities of Ebor ware flagons were present in the Phase 3 deposits.

Between AD 150 and 200 the area seems to have rapidly developed and there was a very intensive pattern of land usage on the site (Phase 4). There were a number of deposits that may represent a build up of agricultural soil (Group 22) which contained both horn cores and clay furnace lining fragments. It is unclear if this represents continued industrial activity in the area or whether the finds are simply residual material. There were a number of post-holes and possible beam slots (Group 23) which implied the presence of timber structures in the area, though the precise form of these structures was unclear. The structures seem to have been short-lived. An isolated infant inhumation burial was also present (Group 26). This child seems to have been buried with offerings of both food and pottery, and the burial was aligned parallel to the Roman road.



Infant burial

The site then seems to have undergone a major redevelopment with the construction of a large rectangular building with its long axis at right angles to the Roman road (Building 1). The building measured 30.5m north-west/south-east and 14.5m north-east/south-west. The external walls all rested upon substantial foundation cuts packed with clay and cobbles. The wall at the rear of the building had two projecting buttresses. There were also deliberate gaps between the foundation trenches of the rear and side walls of the building. The form of the front (south-east) wall of Building 1 is more difficult to determine as there were deliberate gaps between the foundation trenches in this area. One possible explanation for these gaps is that the south-easternmost 4m of the building formed some sort of portico or entrance with intermittent walls supporting pillars. There was a foundation (Context 1139) located 6.5m to the north-east of the front wall of Building 1, which was of similar construction to those of Building 1 and was roughly in line with the front wall of Building 1. It is unclear whether or not this represents a further portion of Building 1; if it was, then the building must have been L-shaped in plan. The sheer scale of the external wall foundations implies that the building was two storeys high, as does the presence of an internal post-pad, presumably to support an

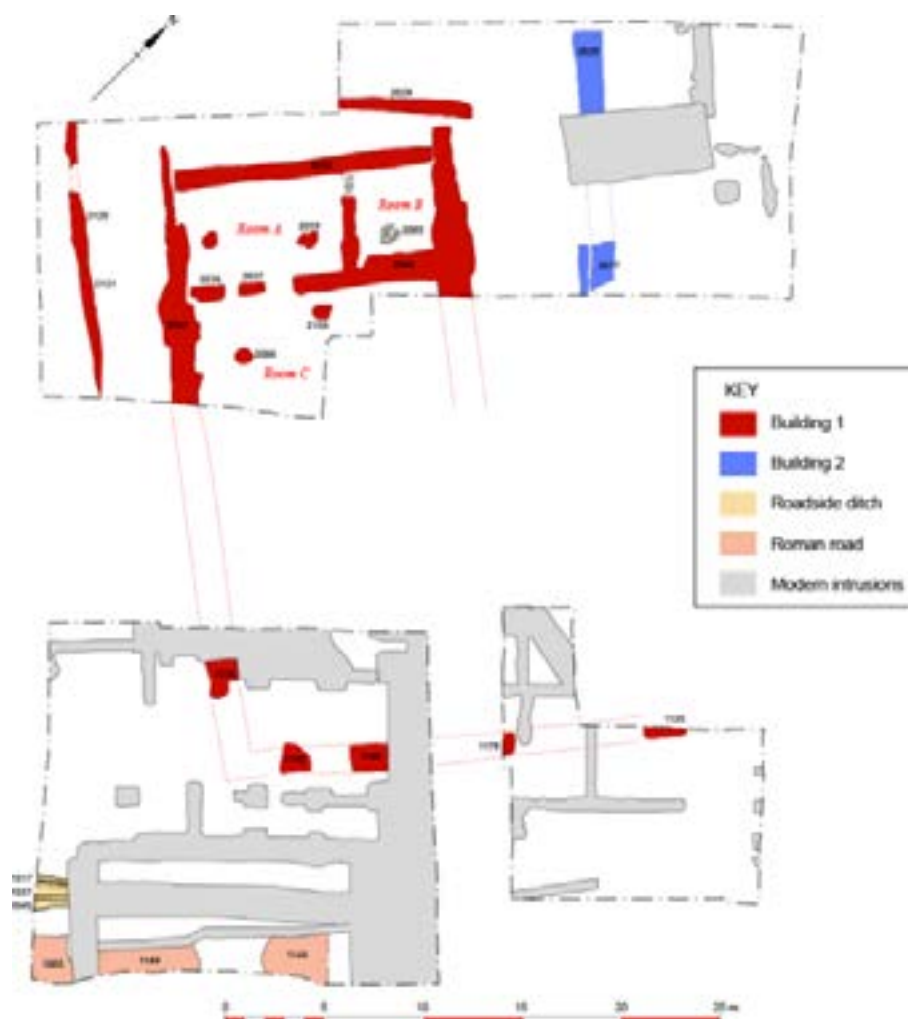
upper storey. Unfortunately none of the superstructure of the building survived. It is of interest however that relatively little CBM was present on the excavations, nor was there any plaster, mortar or *opus signinum*. The lack of such building materials (even allowing for modern truncation) is striking, and may suggest that the building was constructed primarily from timber. The only possible evidence for construction in stone took the form of two worked rectangular blocks of millstone grit found adjacent to the south-east foundation trench of Building 1.



Phase 4 in Trench 2 (Building 1 and 2 with associated ditches brown, build-up yellow, minor cut features dark green, modern intrusions grey)



Phase 4 in Trench 2 (Building 1 and 2 green, ditch and road surfaces yellow, modern intrusions grey)



The Roman buildings as road surface (Building 1 red, Building 2 blue, Roman road pink, associated ditch yellow)

A pair of internal walls created two rooms at the north-western end of the building (Rooms A and B), with a third larger room to the south-east (Room C). Room A was 8 x 5m, Room B was 4 x 5m and Room C was 13m wide and in excess of 6m long. It is unclear if there were any further sub-divisions of Room C as it lay largely outside the area of excavation. There were internal doorways between rooms C/A and A/B. Within Room A there was a circular cut backfilled with compact clay which seems to represent a post-hole for an upright timber. There were also four patches of clay and cobbles each roughly 1 x 1m (one in Room A, one in Room B and two in Room C). The function of these features is unclear; they could represent post-pads to support upright timber beams, but it is also possible that they represent portions of the adjacent wall foundations that had been dragged out of their original position by later medieval ploughing of the site. No internal floors were uncovered during excavation. In the case of Trench 2 this was almost certainly due to modern truncation, but the absence of floor surfaces within Trench 1 is curious, as they should have been present. This may imply either that the building was very short-lived so that internal surfaces did not have time to accumulate, or that the building was very thoroughly dismantled, thereby removing any trace of internal floors. Building 1 seems to have had an associated eaves-drip gully to the north-west and a possible boundary fence to the south-west.

To the north-west of Building 1, but on a marginally different alignment, were the severely truncated traces of a second building (Building 2) which comprised a foundation trench and an associated eaves-drip gully aligned with a possible boundary ditch. Although the foundation of Building 2 was of clay and cobbles these were not laid in careful alternating bands as with Building 1. It is impossible to know if the two buildings were exactly contemporaneous or not. Building 2 may represent an adjacent building, or if Building 1 was L-shaped Building 2 may have been constructed to the rear of the north-eastern portion of Building 1.

The buildings were not in use for long before they were demolished (Group 8). The area adjacent to the Roman road was then sealed by an extensive cobble surface (Group 9). Abundant pottery fragments were incorporated into the cobble surface, notably large numbers of amphora sherds and Ebor ware flagons. Presumably the amphorae originated from a building nearby, perhaps even the demolished Buildings 1 and 2. The cobble surface presumably formed either a path or yard adjacent to the Roman road. No structures directly associated with the cobble surface were present, but it was truncated by two rubbish pits (Group 10) and four post-pads (Group 11). It is possible that the post-holes form two sides of a timber structure fronting onto the Roman road which would have been in excess of 6m x 6m in size. An isolated post-hole in the extreme north-eastern portion of Trench 2 is included in this phase (Group 25). It is possible that this may be related to a number of post-holes seen in Trench 1 of the 1996 excavations on the site (Hunter-Mann 1996, 5) which were interpreted as being part of timber buildings fronting onto the Roman road.

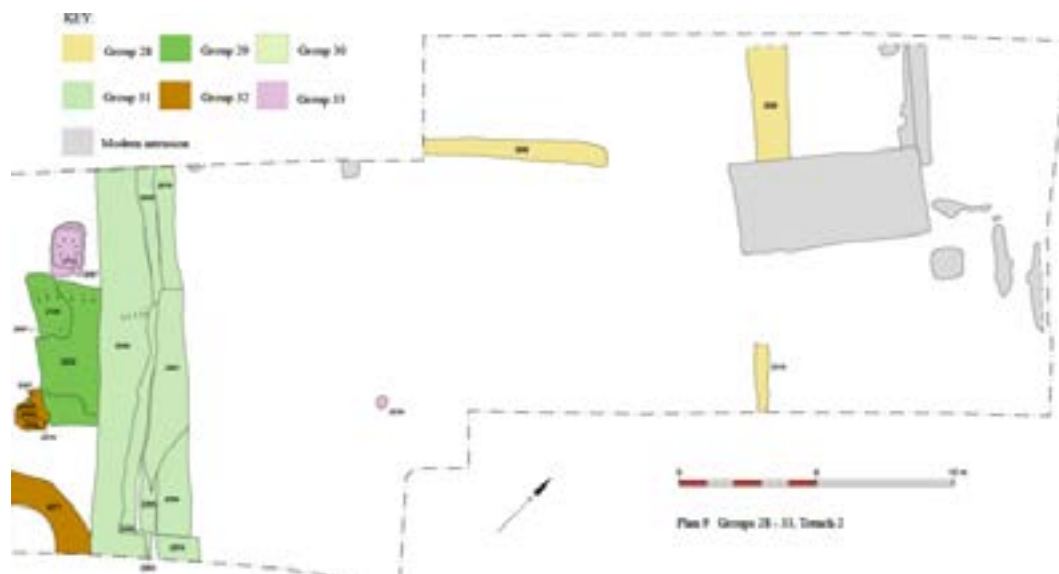


Phases 3-5 in Trench 1 (Phase 3 Roman road and associated ditch yellow, Phase 4 cobble surface of Group 9 dark green, rubbish pits of Group 10 mauve, post-pads of Group 11 pale blue, Phase 5 group 12 dark brown)



Amphora fragments within the cobble surface

Between AD 200 and 225 the site was less intensively used (Phase 5). There was no evidence for structural activity in this phase, but there was clearly occupation of the site for agricultural purposes (Group 14). The most unusual find from this group was a whale vertebra, which had been used as a chopping block. This is a highly unusual find (see the Animal Bones) and suggests links between York and the east coast in the Roman period, perhaps even the importation of whale meat into the city. A major boundary which was re-cut on several occasions (Group 31) was also uncovered. This boundary corresponded closely to the south-western side of Building 1 and may represent the continuation of a property boundary from Phase 4 into Phase 5.



Phases 5-6 in Trench 2 (boundary ditch Group 31 pale green, infilling of earlier Roman eaves-drip gullies yellow, build-up of agricultural soil Group 14 brown, dumps dark green, Phase 6 pit mauve)



Phases 5-6 and 8 in Trench 2 (Phase 5 build up of agricultural soil dark green, infilling of Roman ditch yellow, Phase 6 pits mauve, Phase 8 features pale green)

The site also had an industrial function in the early 3rd century. Abundant fragments of fired clay interpreted as furnace lining were present (Groups 29, 31 and 34), implying smithing nearby. There was also a hearth and associated use deposits in Trench 2 (Group 22), together with a cut or slump containing abundant burnt material in Trench 1 (Group 12). In addition horn cores in some of the early 3rd-century deposits may suggest horn working was taking place nearby. There was also an isolated adult male inhumation burial within this phase (Group 30).



Male burial

The final phase of Roman activity (Phase 6) consisted of a number of pits and post-holes scattered across the site. The features were too widely spaced to form any coherent patterns, but they clearly imply some activity on the site. These features were either undated or contained only residual Roman pottery. The lack of medieval pottery within these features

implies they are pre-medieval in date, and they cannot be earlier than the mid-3rd century as they cut deposits dating from AD 200–225. It is striking that no pottery was found on the site which post-dated the mid-3rd century and this may imply either that virtually all of the later Roman deposits were removed by modern truncation of the site or that Roman activity in the area was decreasing.

Very little evidence of 5th- to 16th-century material was present on the site (Phase 7); this was clearly due to the 20th-century levelling. There was a series of deposits interpreted as a build up of agricultural soils (Group 34) which contained pottery ranging from the Anglo-Saxon period to the 15th century in date. It must also be noted that post-Roman ploughing was clearly shown by the damage to the upper portions of the foundations of Building 1 and by damage to Roman burial 2087. The only medieval feature present was a field boundary ditch (Group 35) that was infilled during the 12th–13th centuries.



Foundations of the Starting gate public house



Phases 7-8 in Trench 2 (Phase 7 ditches dark green, build-up of agricultural soil pale yellow, Phase 8 features mauve)

All of the post-medieval deposits (16th–18th century) had been removed by modern levelling of the site, but residual post-medieval objects were found within modern levelling deposits. Abundant modern remains (Phase 8) were present and included a 1930s reinforced concrete

paddling pool, together with the abundant remains of The Starting Gate public house which consisted of levelling deposits, walls and associated service trenches. It must be noted that the site had been severely truncated before the construction of The Starting Gate and this activity had effectively removed some of the Roman deposits and nearly all of the post-Roman deposits over the site.

3.3.2 *The Interpretation of the Site*

By Jane McComish

Deposit survival

The excavations showed that archaeological deposits were preserved on the site at c 0.5m below the present ground surface. The remains uncovered were not deeply stratified as the site had clearly been severely truncated in the 20th century. Indeed in some places, notably over much of the northern portion of Trench 2, the only archaeological deposits to survive were features cutting directly into natural. Survival of a sequence of deposits was best in the southern portion of Trench 2 and in Trench 1 where archaeological deposits ranging from 0.2m to 0.5m in thickness were recovered. The overwhelming bulk of the excavated remains were of Roman date, and it is these remains which form the basis of the following discussion. The remains were not waterlogged (with the exception of one ditch) and organic material was therefore poorly preserved. The Roman deposits did however contain a range of artefacts most notably a large and highly significant collection of pottery, together with CBM, animal bones and small finds which also contained material of interest. Nothing significant of post-Roman date was recovered from the site due to the 20th-century truncation of the deposits.

Interpretation of the Roman remains

The excavations at The Starting Gate site are clearly of some importance in terms of what they can add to a growing body of evidence relating to the suburbs of major Roman settlements in Britain as a whole and more specifically to the history of York. The remains uncovered indicate limited activity in the area prior to AD 150 (Phase 3), then a period of highly intensive land-use from AD 150–200 (Phase 4), with declining activity from the early 3rd century onwards (Phase 5). There were no features on site that could be securely dated later than AD 225, though some settlement in the area is implied (Phase 6). The remains confirm the picture seen elsewhere in Dringhouses of a roadside settlement dating primarily from the late 1st century to the early 3rd century (Ottaway, in prep.). The history of Dringhouses in the late Roman period is little known from other sites in the immediate vicinity, and unfortunately the present excavations could not clarify the situation as the later Roman remains had been truncated during the 20th century.



The Roman road and ditches

The earliest Roman activity in the area (Phase 3) comprised the construction of a major road from York to Tadcaster. It is always presumed that roads were established soon after the Roman conquest of the region to facilitate the rapid movement of troops. While it may be the case that routeways were indeed of early Roman date, there is little evidence so far that the actual metalled surfaces of Roman roads in the region are necessarily of late 1st-century date. Indeed the metalling often dates to the early to mid-2nd century (Ottaway 1998, 146). In the light of this a ditch (Context 1011) which pre-dates the metalled surface, but is clearly part of the Roman road system, is of interest. This ditch may represent the initial line of a routeway that was later converted into a Roman road with a metalled surface and associated ditches. Alternatively 1011 could be a ditch to the north-west of a road surface which was located slightly outside the area of excavation, and was replaced by a later road either on a slightly different alignment or of greater width. This may compare to the Roman road to York from Malton (RCHMY1, 1–2; Road 4) where an early Roman road was replaced by a later, wider one, though the dating of the two surfaces was uncertain (Brinklow et al. 1986, 93). It is unfortunate that the road from Tadcaster lay largely outside the area of excavation at The Starting Gate as this meant its full width could not be obtained. The 20th-century damage to the upper surface of the road also meant that its full thickness is unknown.

There was clearly some activity to the north-west of the Roman road during the late 1st to early 2nd century, but this seems to have been on a fairly limited scale and mainly comprised ditches, implying that the area was primarily agricultural. This was also the pattern of land use on excavations at the nearby Fox public house (Ottaway, in prep.). There was limited evidence for both smithing and horn working, implying industrial activity nearby.

The presence of a considerable quantity of Ebor flagons in the Phase 3 deposits is notable. This type of pottery is closely associated both in terms of date and production with the Ninth Legion, which occupied the fortress at York until about AD 120. In the late 1st–early 2nd century Ebor Ware seems to have been manufactured under military supervision at York (notably at Peasholme Green to the immediate south-east of the eastern corner of the fortress) and then distributed around the region using the military supply mechanism

(Ottaway 1998, 143). It must also be noted that two tiles with Ninth Legion stamps also occurred as residual material in later phases on the site. The presence of pottery and CBM of Ninth Legion origin on the site may show close links with the military or even military control of the area at this stage.

Rapid expansion of settlement in Dringhouses clearly occurred between AD 150 and 200 (Phase 4). This is difficult to relate to other sites in the area as relatively few features on adjacent excavations could be closely dated to the later 2nd century. A number of ditches at 27 St Helen's Road were possibly 2nd century in date and there was a cobbled path at The Fox public house which was probably of late 2nd-century or early 3rd-century date (Ottaway, in prep.). There was however an upsurge in building activity in the fortress and civilian town south-west of the Ouse in the third quarter of the 2nd century to which the Dringhouses settlement may relate (Ottaway 1998, 147).

The precise status of the settlement at Dringhouses at this time is unclear. It is known that legionary fortresses were surrounded by land under direct military control (*prata legionis*). In the case of York it is often assumed that the lack of villas to the north and east of the fortress indicates that the *prata legionis* lay to the north-east of the River Ouse (Mason 1988a, 185). It is unclear if the zone also extended to the south-west of the river or not. The excavations at The Starting Gate site have not clarified this situation because the remains can be interpreted in various ways.

One possible interpretation for the largest building on the site (Building 1, Group 27, see Site plan) is that it was a *mansio* (a government residence to accommodate travelling officials), in which case its proximity to the military centre at York is of interest. Clearly there was no standard plan for *mansio* buildings so it is impossible to state that the ground plan alone suggests this interpretation. For example at Godmanchester, Huntingdonshire, the *mansio* consisted of a large courtyard building with a separate but associated bath-house (<http://www.godmanchester.net/history/roman%20mansio.htm>, 17.9.04). The *mansio* at Chesterholm began as a three-roomed bath-house to which a courtyard building was added (Wilson 1970, 277), while a *mansio* at Mildenhall, Wiltshire, was 60 x 40m in size and consisted of 24 rooms grouped in three ranges around a courtyard (Corney 1997, 337).

There are, however, some factors which may support the interpretation of Building 1 as a *mansio*. The first is the sheer quantity of white-slipped flagons, together with the large quantities of amphora and mortaria fragments found on the site which suggest that it was, in its early phases, heavily involved with the storage, preparation and serving of food and drink. In addition, although no direct evidence for a bath-house (in terms of walls or foundations) was found on the site, there must have been one in the vicinity as flue tiles were present on this excavation and a hypocaust brick on the earlier 1996 excavations at The Starting Gate site (Hunter-Mann 1996, 9). Taken together, the association with food and drink and with baths somewhere nearby may imply buildings for the accommodation of guests.

It is also of interest that the foundations of Building 1 consisted of large trenches packed with clay and cobbles. Similar clay and cobble foundations are well known from military buildings within the fortress (Ottaway 1996, 211). The fortress buildings concerned represent the replacement of early timber buildings with stone buildings, and although it is often difficult to date these stone buildings precisely, they seem to be of 2nd-century date, usually the latter

half of the 2nd century (Ottaway 1996, 291–2). In contrast, the buildings present in the civilian settlement at 24–30 Tanner Row in the late 2nd century were of timber (Ottaway forthcoming, Phases 2–5), the only exception being a single wall with a foundation of rubble lined with planks. The fact that the Starting Gate foundations more closely resemble buildings of the fortress than buildings of the civilian settlement to the immediate south-west of the River Ouse at this date may imply military construction of a government building. If Building 1 was a military/government building it would imply military control of the site, which had already been hinted at in Phase 3.

It is also possible, however, that the settlement at Dringhouses was purely civilian and that it was deliberately founded at the very edge of the *prata legionis*, in order to be as close as possible to supply the needs of the fortress while at the same time escaping military control. In this case it would perhaps have resembled the civil settlement at Heronbridge 2km south of the legionary fort at Chester, and a number of civilian settlements close to, but separate from, fortresses in continental Europe which are usually termed *zivilen Dorf* settlements (Mason 1988a, 139).



Cleaning the gravel surface

Buildings 1 and 2 did not remain in use for long before being carefully demolished. The area immediately adjacent to the Roman road was then sealed by an extensive gravel surface of uncertain function. Some evidence of post-built timber structures was present, but these were clearly not on the same scale as Buildings 1 and 2. It is tempting to suggest that while Buildings 1 and 2 are of a scale and method of construction which suggest a relationship to the military, the later timber structures are of civilian origin.

There was no evidence for structural activity on the site in the early 3rd century (Phase 5) but there was clearly occupation of the site for agricultural purposes and possibly also for smithing, as abundant fragments of fired clay interpreted as furnace lining were found. The evidence for smithing is of interest as it ties in with earlier finds in the area. A large deposit of slag interpreted as tap-slag was present in the 1996 excavations on the site (Hunter-Mann 1996, 5) and a carving of a smith (or possibly Vulcan) was found on the opposite side of Tadcaster Road in the grounds of the Manor House (RCHMY1, 107, 128). The presence of horn cores in Phase 5 may also imply horn working on the site. The evidence for metalworking and possible horn working taken together may imply that the settlement in the area was based on

a mixture of agriculture and industry at this time. An adult male buried on the site at this time showed signs of having led a physically active life, involving physical labour using the upper limbs (see Osteological Analysis). Both farming and smithing would fit the pattern of wear seen on the skeleton, which may give some indication as to the occupations of the inhabitants of the area in the early 3rd century. It is also of interest that the low level of activity in the early 3rd century date is not mirrored in the civilian settlement to the immediate south-west of the River Ouse which was growing rapidly at this time (Ottaway 1998, 147). Perhaps the Dringhouses settlement failed precisely because the settlement closer to the fortress was proving so successful.

It is difficult to be certain as to the level of activity on the site in the later Roman period, as 20th-century activity had clearly removed most of the evidence for later Roman deposits on the site. A few scattered pits and post-holes on the site may have been of this later 3rd-century or later date (Phase 6). The features were too widely spaced to form any coherent patterns, but they clearly imply some activity on the site. It is striking that no pottery was found on the site which post-dated the mid-3rd century. It could also be that activity in the area was decreasing in the later Roman period, though there are a few features of later 3rd- and 4th-century date on adjacent sites. At The Fox public house a human burial included a copper alloy finger ring and a black burnished ware pot dating to AD 225–300 (Macnab 1997, 8). There was also a ditch at this site which was backfilled in the late 3rd–early 4th century (Macnab 1997, 12). A ditch containing 3rd-century pottery was also present at 26–30 Regency Mews (Ottaway, in prep.). Overall it seems that the settlement at Dringhouses had gone into terminal decline from the early 3rd century onwards.

The excavations at The Starting Gate site have clearly added greatly to the knowledge of the suburban settlement at Dringhouses, showing that in the 2nd century at least it was a thriving settlement with buildings of some size.

4 THE ARTEFACTS AND ENVIRONMENTAL EVIDENCE

The most interesting aspect of the artefactual evidence recovered from the site consisted of an outstanding collection of pottery including abundant amphorae, mortaria and Ebor ware fragments. In addition, a number of Roman objects were found including coins, fragments of vessel glass, a spindle whorl, a possible grave marker and various iron objects including evidence for metal working on the site. The quantity of ceramic building material and architectural fragments present was less than usual for a major Roman site in York. The collection of animal bones recovered gave the opportunity to study early Roman butchery techniques. Detailed osteological analysis of the three skeletons found during the excavations also revealed interesting facts about the people concerned.

4.1 The Human Bone

By Malin Holst

Osteological analysis of three human skeletons and disarticulated bones recovered during archaeological excavations at site of the former Starting Gate public house, Tadcaster Road, York (NGR SE 5869 4966), was undertaken by Field Archaeology Specialists Ltd on behalf of York Archaeological Trust.

Osteological analysis revealed that the cemetery group included a middle-aged male, a female and a young child. The female and juvenile had been interred in a flexed position on the right side. The male had been truncated by ploughing, but is thought to have been buried supine and extended. Dating evidence suggests that the male and child date from the Roman period, while truncation of the female skeleton by a Roman building suggests that she may be prehistoric or early Roman in date. It is believed that the Roman skeletons were interred in a cemetery which was part of a linear group of burial grounds along the former Roman road leading into the Roman fortress and *colonia* from the south-west.

Field Archaeology Specialists Ltd would like to thank Jane McComish of York Archaeological Trust for her assistance and support.

4.1.1 Introduction

Only parts of the right side of Skeleton 1 (Context 2087) remained *in situ*, while the majority of the burial had been lost to truncation by ploughing. This skeleton appears to have been interred on its back in an extended position and was orientated north-east/south-west. Skeleton 2 (Context 2127) had been interred in a flexed position on the right side, and was orientated north-east/south-west. A large mammal jaw had been placed on its chest and it had been interred with some pottery and iron nails. The presence of the nails may indicate burial in a coffin, although its flexed posture would be unusual for a coffined burial. Skeleton 3 (Context 2154) was orientated north/south and had been buried in a flexed position on the right side. This individual had been partly removed by Roman foundations, resulting in the loss of the skull, spine and parts of the shoulders.

On the basis of stratigraphic and contextual information it is thought that Skeleton 3 (Context 2154) dated from the early Roman period, or may represent a prehistoric burial. Skeletons 1 and 2 are believed to be Roman in date.

Three further contexts produced small quantities of disarticulated bone. Two contexts represented backfills of ditches (2048 and 2076), which had been re-cut several times and are thought to date to the Roman period. One of these (2048) was located near Skeleton 1 (Context 2087) and may have contained bones belonging to this individual. Additionally, disarticulated human bone was recovered from a post-Roman build-up layer (2063), which was also located in the vicinity of Skeleton 1. A fragment of tibia was found with Skeleton 3 (Context 2154), which did not belong to this individual and was included with the disarticulated bone.

4.1.2 Aims and objectives

The skeletal assessment aimed to provide a basic insight into the profile of the population uncovered from the cemetery. It attempted to determine age, sex and stature, as well as any pathological conditions from which the individuals may have suffered.

4.1.3 Methodology

The skeletons were analysed in detail, assessing the preservation and completeness of each skeleton, as well as determining the age, sex and stature of the individuals (Appendix 1). All pathological lesions were recorded and described. The disarticulated bones were examined and described according to the skeletal element represented, its side, completeness, the possible age and sex of the individual, and the presence of pathological lesions.

4.1.4 Osteological Analysis

Osteological analysis is concerned with the determination of the identity of a skeleton, by estimating its age, sex and stature. Robusticity and non-metric traits can provide further information on the appearance and familial affinities of the individual studied. This information is essential in order to determine the prevalence of disease types and age-related changes. It is crucial for identifying gender dimorphism in occupation, lifestyle and diet, as well as the role of different age groups in society.

Preservation

Skeletal preservation depends upon a number of factors, including the age and sex of the individual as well as the size, shape and robusticity of the bone. Burial environment, post-depositional disturbance and treatment following excavation can also have a considerable impact on bone condition. Preservation of human skeletal remains is assessed subjectively, depending upon the severity of bone surface erosion and post-mortem breaks, but disregarding completeness.

Preservation was assessed using a grading system of five categories: very poor, poor, moderate, good and excellent. Excellent preservation implied no bone surface erosion and very few or no breaks, whereas very poor preservation indicated complete or almost complete loss of the bone surface due to erosion and severe fragmentation.

All skeletons were moderately well preserved, having suffered from bone fragmentation and bone loss, particularly of the spongy bones of the spine and joints (Table 1). The crania of Skeletons 1 and 3 (Contexts 2087 and 2154) had been subject to truncation and were not present. The skeletons exhibited a mild degree of surface erosion, and it is presumed that the nature and intensity of post-burial land use contributed to the deterioration of the skeletons. This is supported by the many cut marks on Skeleton 1 (Context 2087), which are not related to peri-mortem trauma, but may be the result of ploughing once the skeleton had been buried.

The completeness of the skeletons differed considerably: Skeleton 1 (Context 2087) was only 10% complete, whereas Skeleton 2 (Context 2127) was largely intact, with a bone survival of 75% (see Table 1).

SKELETON NUMBER	PR	COMPLETENESS	AGE	SEX	STATURE	PATHOLOGY
1	Mod.	10%	36-45	Male	-	bone excavations, DJD in right patella
2	Mod.	75%	1-2	Undet.	-	bone excavations
3	Mod.	60%	36-42	female	-	bone excavation, periostitis

Table 1

The disarticulated remains were fragmentary with the exception of the thoracic vertebrae from layer 2063, which were intact (Table 2). All other disarticulated bones showed evidence for post-depositional erosion and truncation. It is possible that these bone fragments represent elements which are missing from Skeletons 1 and 3, but this could not be verified, as none of the disarticulated bones could be pieced together with those from the full skeletons.

It is certain, however, that none of the disarticulated bones derived from Skeleton 2, as all loose bones were completely fused, suggesting an age of sixteen years or older.

The bone texture of a tibia from ditch backfill 2076 was unlike that of any other human bone from the excavation. The bone had a waxy, shiny surface and appeared denser than other human bones, with an appearance like animal bone. It is probable that taphonomic factors were responsible for the differential preservation of this bone.

CONTEXT NUMBER	BONE ELEMENT	PART	SIDE	AGE	SEX	NOTES
2048	pelvis	ilium, ischium, 2 fragments	right	adult?	-	-
	vertebra	cervical spinous process	-	adult?	-	-
	hand	intermediate phalanx	-	adult?	-	-
	humerus	shaft fragment	left	adult?	-	-
	tibia	shaft	left	adult	-	-
	long bone	2 shaft fragments	-	-	-	-
2063	ribs	6 shaft fragments, 5 heads, 1 sternal end	right	adult	-	-
	vertebrae	2nd to 9th thoracic vertebra	-	oma-ma	-	osteophytes at inferior bodies and articular facets of 8th and 9th vertebra
	radius	distal shaft fragment	left	adult	-	-
	hand	two intermediate phalanges	-	adult	-	-
	humerus	head, neck and most of shaft (9 fragments)	right	adult	Male	porosity at insertion of <i>teres minor</i>
2067	tibia	shaft	left	adult	-	periostitis at medial surface, large bone excavation for <i>soleus</i>
2154	tibia	shaft	-	-	-	-

Table 2

Minimum Number of Individuals

A count of the *minimum number of individuals* (MNI) recovered from a cemetery is carried out as standard procedure in osteological reports on inhumations in order to establish how many individuals are represented by the articulated and disarticulated human bones (without taking the archaeologically defined graves into account). The MNI is calculated by counting all long bone ends, as well as other larger skeletal elements recovered. The largest number of these is then taken as the MNI. The MNI is likely to be lower than the actual number of skeletons which would have been interred on the site, but represents the minimum number of individuals which can be scientifically proved to be present.

A count of the long bone ends and major bone elements provided an MNI of three individuals — the same number as the archaeologically defined skeletons.

Assessment of Age

Age was determined using standard ageing techniques, as specified in Scheuer and Black 2000a, Scheuer and Black 2000b and Cox and Mays 2000. Age estimation relies on the presence of the pelvis and uses different stages of bone development and degeneration in order to calculate the age of an individual. Age is divided into a number of categories, from foetus (up to 40 weeks in *utero*), neonate (around the time of birth), infant (newborn to one year), juvenile (1-12 years), adolescent (13-17 years), young adult (ya; 18-25 years), young middle adult (yma; 26-35 years), old middle adult (oma; 36 to 45 years, mature adult (ma; 46) to adult (an individual whose age could not be determined more accurately than over the age of 17).

The incomplete nature of Skeletons 1 and 3 (Contexts 2087 and 2154), as well as the poor preservation of the hips of Skeleton 3 (Context 2154), meant that age determination was based on less accurate criteria than are usually used for age determination. Long bone fusion suggested that Skeleton 1 (Context 2087) was at least seventeen years of age, but was probably aged over thirty-six years, on the basis of slight joint disease in the right patella. The dental development, fusion and long bone measurements of Skeleton 2 (Context 2127) suggest that this was a young juvenile, aged between one and two years, but probably around eighteen months old. Based on deterioration of the hip joints, Skeleton 3 (Context 2154) was an old middle adult (Table 1).

The wide age distribution demonstrates that individuals of all ages were interred in this cemetery. It also implies that many individuals had succumbed to disease before reaching old age.

Sex Determination

Sex determination was carried out using standard osteological techniques, such as those described by Mays and Cox 2000. Assessment of sex in both males and females relies on the preservation of the skull and the pelvis, and can only be carried out once sexual characteristics have developed, during late puberty and early adulthood.

On the basis of cranial and pelvic characteristics, and measurements confirming the gracile nature of the bones, Skeleton 3 (Context 2154) was female. The assessment of sex of Skeleton 1 (Context 2087) relied solely on a single measurement, which is not as accurate as those of the pelvis but suggested that the individual was male. However, this skeleton was much more robust than the female, supporting the conclusion that this was a man. It was not possible to estimate sex in the juvenile, as this individual was too young to have developed skeletal characteristics indicative of sex.

Stature

Stature depends on two main factors, heredity and environment. However, stature can also fluctuate between chronological periods. Stature can only be established in skeletons if at least one complete and fully fused long bone is present. The bone is measured on an osteometric board, and stature is then calculated using a regression formula developed upon individuals of known stature.

In this instance, none of the long bones was intact, and stature could not be estimated in any of the individuals.

Metric Analysis

Craniometric measurements could not be taken on the skeletons because the skulls were extremely fragmented. As a result, the general skull shape could not be established.

Leg measurements were obtained from the femora and tibiae of Skeleton 3 (Context 2154), and these were used to calculate robusticity indices. The *platymeria* index is a method of calculating the shape and robusticity of the femoral shaft. The femoral shafts were *platymeric* (broad and flat).

The *platycnemia* index (robusticity index) of the tibiae was calculated in order to establish the degree of tibial shaft flatness. The right tibial shaft of Skeleton 3 (Context 2154) was *platycnemic* (rounded); whereas the left tibial shaft was *mesocnemic* (slightly less rounded).

Non-Metric Traits

Non-metric traits are additional sutures, facets, bony processes, canals and foramina, which occur in a minority of skeletons and are believed to suggest hereditary affiliation between skeletons (Saunders 1989). The origins of non-metric traits have been extensively discussed in the osteological literature and it is now thought that while most non-metric traits have genetic origins, some can be produced by factors such as mechanical stress (Kennedy 1989) or environment (Trinkhaus 1978).

A total of thirty cranial and thirty post-cranial non-metric traits were selected from the osteological literature (Buikstra and Ubelaker 1994, Finnegan 1978, Berry and Berry 1967) and each skeleton was scanned for these traits. Only four traits were observed in this group, which was probably the result of bone loss due to poor preservation. Skeletons 1 and 3 (Contexts 2087 and 2154) were found to have third trochanters (bony processes) on the femora. This trait has been attributed to mechanical stress, in particular to the main bottom muscle, *gluteus maximus*, and may therefore be activity-related. Skeleton 3 (Context 2154) had two further non-metric traits, so-called 'plaque' formation on the margin of the right femoral head and another trait termed '*emarginate patella*', which is characterised by a rough scooped-out lesion on the supero-lateral part of the patella.

Conclusion

Osteological analysis of the three skeletons from the former Starting Gate public house site established that the cemetery group represented individuals of different ages and both sexes. Stature could not be established, but it was found that while the female skeleton was relatively gracile, the male was very strongly built.

4.1.5 Pathological Analysis

Pathological conditions can manifest themselves on the skeleton during life, especially when these are chronic or the result of trauma to the bone. The bone elements to which muscles attach can also provide information on muscle trauma and excessive use of muscles.

Evidence for infection was observed in Skeleton 3 (Context 2154) and one of the disarticulated bones from Context 2063 (Plate 1), in the form of superficial (periosteal) inflammatory lesions on both tibiae. The nature of the skeletal manifestation on the shin bones was characterised by diffuse striae (lamellar bone) indicative of receding inflammation. Inflammatory lesions on human bones can be indicative of infectious diseases, such as leprosy and syphilis, and of non-specific localised infection, such as varicose veins, leg ulcers or trauma to the shins. However, these lesions only form in the bone if the infection is chronic and longstanding (Roberts and Manchester 1995, 125). Evidence for non-specific infection was very common before the introduction of antibiotics and is frequently observed in populations derived from archaeological contexts.



Infection on bone from Context 2063

Occasionally, it is possible to infer trauma to the soft tissue on the bones, in the form of ligamentous or muscular trauma. This is expressed through the formation of bony processes (*enthesopathies*) at the site of ligament attachments. Additionally, it is possible to observe cortical defects at the site of muscle insertions, which are the result of constant micro-trauma and are usually activity-related (Hawkey and Merbs 1995, 334).

Muscle trauma in the form of cortical bone excavations was observed in all three skeletons from this site. Skeleton 1 (Context 2087) showed evidence for muscle trauma at the right scapula, at the muscle attachment of *teres minor* and the long head of *triceps*, which are muscles responsible for the lateral rotation of the arm, extension of the forearm and adduction of the arm, as well as stabilising the shoulder joint (Stone and Stone 1990, 105). Evidence for repetitive strain injury to the *teres minor* muscle was also observed in a right disarticulated humerus, which is thought to have derived from a male adult. It is possible that this bone belonged to Skeleton 1, although it was thought that this individual's humerus may have been larger.

Skeletons 2 and 3 (Contexts 2127 and 2154) had cortical bone excavations at the insertion of *pectoralis major* on both humeri, and bone excavations were also noted in one disarticulated left humerus fragment. This muscle aids in adducting and medially rotating the arm, the arm movements required for most manual tasks. Skeleton 3 (Context 2154) also exhibited considerable bone excavations at the ulnar tuberosities for *brachialis*, a muscle that flexes the forearm. The evidence suggests that this individual was involved in regular activities which required physical labour, especially those involving the arms.



*Bone excavation at attachment
for brachialis on ulna of Skeleton 3*

All three skeletons showed evidence for muscular strain to *gluteus maximus*, the main muscle of the bottom. This muscle extends and laterally rotates the hip joint and extends the trunk. Repetitive strain injuries to this muscle are commonly observed in most archaeological populations. Further evidence for trauma to the leg muscles could be observed at the insertions of *soleus* in a disarticulated tibia from ditch backfill 2076, which was extremely pronounced in this bone. This muscle causes the tip of the foot to move downwards, an action required for walking and climbing. This would suggest that individuals from this group led a physically active life, involving physical labour using the upper limbs. The fact that the young juvenile showed evidence for muscle trauma also observed in the adults suggests that the child also led a physically active life.

Further evidence for pathology was noted in the form of degenerative joint disease (DJD) in Skeleton 1 (Context 2087) and eight disarticulated thoracic vertebrae. Joint disease is commonly observed in populations of all periods, especially in those where older individuals are well represented. Degenerative joint disease is caused by a number of factors, including increasing age, mechanical factors, hereditary predisposition and endocrine stress. Different factors can affect different joints; Jurmain 1980 observed that DJD in the elbow and knee was more likely to be caused by functional stress, whereas the hip and shoulder were more likely to degenerate as a result of increasing age. DJD is expressed as additional bone formation around the joint margins (osteophytes), or through pitting of the joint surface.

Evidence for slight DJD was noted in the form of marginal osteophytes on the right patella of Skeleton 1 (Context 2087). The degenerative changes would not have affected this individual, but bear evidence of the advancing age of this man. All eight thoracic vertebrae from layer 2063 also exhibited slight osteophyte formation at the margins of the inferior vertebral bodies. Additionally, the articular facets of the 8th and 9th vertebrae were affected by moderate osteophyte formation. Spinal osteophytes form in response to the constant stress that is placed on the spine as a result of human posture (Roberts and Manchester 1995, 106) with the aim of providing support and in an attempt to repair the joint. Increasing stress or activity can therefore lead to increased size and prevalence of osteophytes (*ibid*). The development of DJD in the knee of Skeleton 1 (Context 2087) and the disarticulated spine can probably be attributed to functional stress.

When determining the age of the young juvenile (Skeleton 2 Context 2127), it was found that all ageing criteria, including dental development, bone fusion and long bone measurements,

suggested an age of approximately eighteen months with the exception of the lumbar vertebral fusion, which suggested an age of five to six years. This implies that the bodies of the lumbar vertebrae fused far too early to the spinous and transverse processes, which would not have allowed further growth of this part of the spine, while the remaining skeleton continued to develop. This type of anomaly is extremely rare, but is thought to be a developmental defect. Although the actual fusion of the vertebrae would not have had any effect on the individual at this age, restricted development of the lumbar spine would have eventually caused pressure damage to the spinal cord and would have led to serious complications. The cause of death of this child might have been related to the developmental defect which caused fusion of the lumbar vertebrae.

The skeletal evidence suggests that the two adults and individuals represented by the disarticulated remains from The Starting Gate site were relatively healthy, with no evidence for commonly observed conditions such as sinusitis, iron deficiency, fractures or weapon trauma. However, hard physical work took its toll on the skeletons in the form of micro-trauma at muscle attachments and joint degeneration in one knee and a disarticulated spine. It is probable that better spinal preservation would have provided further evidence for activity-related strains. Additionally, superficial inflammation of the leg bones may have resulted from trauma to the shins. The child in this group exhibited no evidence for pathology with the exception of a developmental defect which caused early fusion of the lower spine and may have contributed to its death.

4.1.6 *Dental Health*

Analysis of the teeth from archaeological populations can provide vital clues about health, diet and oral hygiene, as well as information about environmental and congenital conditions. However, in this case, only some of the teeth (15/20) of the young juvenile (Skeleton 2 Context 2127) survived. All teeth observed were milk teeth and most of the tooth roots were not fully formed. No dental pathology was observed in the surviving milk teeth or developing permanent teeth of this child.

4.1.7 *Discussion and Summary*

Osteological analysis of the small group of skeletons from the former Starting Gate public house site in York has provided a glimpse into the lives of the people buried there. The small group of skeletons included two adults of old middle age, as well as a young juvenile, who was approximately eighteen months old. One of the adults was a very strongly built male, with large muscular bones. The second adult skeleton was a female, who was more gracile than the man, but also had strongly developed muscles. Both adults suffered from effects of repetitive muscular injury, which can probably be attributed to hard physical work. Corresponding muscular trauma was also noted in the disarticulated bones. Trauma at the muscle insertions of the juvenile suggest that this child also led an active life, despite suffering from a developmental condition which caused early fusion of its lower spine and may eventually have contributed to its death.

Further evidence for functional stress was noted in the male adult, who suffered from slight degeneration of the knee joint. Additional evidence for degenerative joint disease was also observed in a disarticulated spine.

SKELETON NUMBER		1									
Preservation		moderate									
Completeness		10%; fragments of the right scapula, humerus, femur, tibia, fibula and the right patella									
Age		36-45, old middle adult									
Sex		male									
Stature		-									
Non-Metric Traits		plaque , third trochanter, <i>emarginate</i> patella									
Pathology		cortical bone excavations, djd									
Dental Health		no teeth									
SKELETON NUMBER		2									
Preservation		moderate									
Completeness		75%; fragments of all skeletal elements, with the exception of the lower arms, hands, right foot and left scapula									
Age		1-2 juvenile									
Sex		undetermined									
Stature		-									
Non-Metric Traits		none									
Pathology		cortical bone excavations, developmental defect leading to early fusion of the vertebrae									
Dental Health		mandible and maxilla present (15/20 teeth)									
Present	p	p	p	-	p	p	p	-	p	p	
Calculus	-	-	-	-	-	-	-	-	-	-	
DEH	-	-	-	-	-	-	-	-	-	-	
Caries	-	-	-	-	-	-	-	-	-	-	
Wear	1	1	1	-	1	1	1	-	1	1	
Maxilla	e	d	c	b	a	a	b	c	d	e	
Mandible	e	d	c	b	a	a	b	c	d	e	
Present	p	p	p	p	p	-	-	-	p	p	
Calculus	-	-	-	-	-	-	-	-	-	-	
DEH	-	-	-	-	-	-	-	-	-	-	
Caries	-	-	-	-	-	-	-	-	-	-	
Wear	1	1	1	1	1	-	-	-	1	1	
SKELETON NUMBER		3									
Preservation		moderate									
Completeness		60%; upper and lower limbs, pelvis, feet and parts of right hand present									
Age		36-45 old middle adult									
Sex		female									
Stature		-									
Non-Metric Traits		third trochanter									
Pathology		cortical bone excavations, periostitis of tibiae									
Dental Health		no teeth									

Table 3

KEY: Caries - Calculus; F - flecks of calculus; S - slight calculus; M - moderate calculus; H - heavy calculus; a - all surfaces; b - buccal surface; d - distal surface; m - mesial surface; l - lingual surface; o - occlusal surface

DEH - dental enamel hypoplasia; l - lines; g - grooves; p - pits

Caries - caries; s - small lesions; m - moderate lesions; l - large lesions

Wear - dental wear; numbers from 1-8 - slight to severe wear

Present - Tooth presence; am - ante-mortem tooth loss; pm - post-mortem tooth loss; p - tooth present; - - jaw not present

It is possible that trauma to the shins, an infectious disease or simply varicose veins were responsible for the development of inflammation of the lower limb of the female and also observed in a disarticulated tibia. The inflammation was receding in both bones, suggesting that the inflammation was healing. Inflammatory lesions on the shins are frequently observed in skeletons from all periods, but are more common in those populations from densely populated urban contexts.

Skeletons 1 and 2 (Contexts 2087 and 2154) are thought to have dated to the Roman period, whereas Skeleton 3 (Context 2154) may have been prehistoric or early Roman. However, inhumations are relatively uncommon from the early Roman period, when cremation and deposition of the bone in urns was the most universally practised funerary tradition. In the late 2nd century AD, burial rite generally changed from cremation to inhumation. This skeleton should therefore be radiocarbon dated.

The discovery of the burials along the Roman road, which is now marked approximately by Tadcaster Road, was not unexpected considering the numerous burials identified by antiquarian and recent excavations along the road from the Roman fortress and *colonia* to the site.

4.2 The Plant and Invertebrate Remains

By Palaeoecology Research Services

Twenty-five sediment samples were recovered from the deposits (GBA/BS *sensu* Dobney et al 1992). Five of these were submitted to PRS for an assessment of their bioarchaeological potential. Ancient plant remains were restricted to small amounts of wood charcoal, with (in three samples) traces of what appeared to be charred or uncharred humified peat. There were also a few specimens which certainly or probably originated in cereal crops. A single sample produced a very small assemblage of charred remains comprising a few weed seeds. The plant remains give some indication of the use of fuel at the site in the Roman period, which apparently included wood, coal and probably also peat (or perhaps turves). No invertebrate remains were recovered.

Methods

The submitted sediment samples were inspected in the laboratory and their lithologies were recorded, using a standard *pro forma*, prior to processing, following the procedures of Kenward et al. 1980 and Kenward et al. 1986, for recovery of plant and invertebrate macrofossils. The washovers and residues resulting from processing were examined for plant and invertebrate macrofossils. The residues were examined for larger plant macrofossils and other biological and artefactual remains.

Results

The results are presented in context number order by phase. Archaeological information, provided by the excavator, is given in square brackets. A brief summary of the processing method and an estimate of the remaining volume of unprocessed sediment follows (in round brackets) after the sample numbers.

Disturbed natural deposits

Context 1075 [natural - details]

Sample 27/T (3kg sieved to 300 microns with washover; approximately 2 litres of unprocessed sediment remain). Just moist (to dry in places), light to mid-brown to mid- to dark grey-brown, crumbly to unconsolidated, slightly clay, ?ashy sand. There were no obvious inclusions. There was a very small washover of a few ml of charred material: charcoal and cinder-like material with a little coal (all to 5mm). There was also a single charred grass/cereal culm-node ('knee' from the stalk). The residue was small (dry weight 252g) and of stones (to 25mm) and sand. There was also a little ?pot (to 15mm, approximately 1g), charcoal (to 10mm, less than 1g) and six tiny fragments of bone (all of which were unidentifiable; total weight less than 1g).

Roman (Phase 1) – late 1st century to AD 150

Context 1039 [primary fill of ditch 1045 - details]

Sample 26/T (3kg sieved to 300 microns with washover; approximately 4 litres of unprocessed sediment remain). Moist, light to mid- grey-brown to light to mid-grey (with occasional orange-brown patches of ?recently rotted organic material), crumbly and slightly sticky (working soft and slightly sticky), clay sand, to sandy-clay. Stones (over 60mm) were present. The washover comprised about 10ml of charred material (charcoal and cinder-like fragments to 5mm in maximum dimension), amongst which were traces of uncharred ?peat fragments (also to 5mm). Some traces of woody debris might be from modern roots. A single poorly preserved charred barley (*Hordeum*) grain fragment was also noted. The small residue (dry weight 312g) was of stones (to 15mm) and sand, with a little slag (less than 1g), ?brick/tile (to 10mm, about 1g) and charcoal (to 10mm, about 1g). Eleven fragments of bone (total weight 2g), three of which were burnt, were also recovered from this sample. None of these fragments were identifiable to species.

Roman (Phase 3) – early 3rd century

Context 2028 [backfill of ditch 2029, possibly an eaves-drip gully for a Roman building - details]

Sample 1/T (3kg sieved to 300 microns with washover; approximately 4 litres of unprocessed sediment remain). Just moist, light yellow-brown to mid-grey-brown (with shades of grey-brown between), unconsolidated to crumbly (working soft where more clay was present), slightly clay sand (larger proportion of clay in places). Stones (20 to 60mm) and ?rotted charcoal were present. The small washover of about 30ml consisted of (modern) woody roots with a little charcoal (to 5mm) and coal (to 3mm) with small (less than 3mm) fragments of charred and uncharred ?peat. There were also a few very distorted charred cereal grains, probably all barley. There was a small residue (dry weight 202g) of stones (to 25mm) and sand, with a little pot (to 15mm, 2g) and charcoal (to 10mm, approximately 1g). Bone recovered from the sample amounted to seventeen (total weight of 2g), all of which were less than 25mm in maximum dimension. Over half showed fresh breakage damage and none could be identified.

Context 2054 [build-up associated with use of a hearth - details]

Sample 6/T (3kg sieved to 300 microns with washover; approximately 4 litres of unprocessed sediment remain). Just moist, mid- to dark grey-brown to black, unconsolidated to crumbly, ashy, clay silt, with fragments of ?brick and tile, ?coal, ?slag and ?charcoal. This sample yielded a small (though for this group of samples comparatively large) washover of about 100ml of

charred material, mainly coal cinders (to 30mm), and some unburnt coal (to 10mm). With these were a modest number of small, rather poorly preserved charred seeds, probably all from weeds; they included stinking mayweed (*Anthemis cotula* L.) and some small legume seeds which may have been clovers or medicks (*Trifolium* or *Medicago*). There was also a single fragment of an oat (*Avena*) grain and a single uncharred seed of raspberry (*Rubus idaeus* L.) which may be modern. The fairly large residue (dry weight 825g) was of coal and cinder (both to 40mm), with some stones (to 15mm), sand, a little brick/tile (to 35mm, 17g) and slag (38g).

Context 2082 [backfill of ditch 2095 - details]

Sample 18/T (3kg sieved to 300 microns with washover; approximately 2 litres of unprocessed sediment remain). Moist, light to mid-grey-brown to light to mid-grey, crumbly to unconsolidated (working soft), sandy clay to clay sand. Some small (to 10mm) clay lumps and stones (6 to 60mm) were present. The washover was made up of a trace (probably less than 1ml) of coal, cinder-like material and charcoal (to 5mm), with one or two fragments of material which may be uncharred peat (also to 5mm). The small residue (dry weight 184g) was of sand and some stones (to 15mm). There was also an occasional charcoal fragment (to 3mm, much less than 1g) and a single fragment of unidentified burnt bone (to 8mm, less than 1g).

Discussion

Plant remains were examined from the washovers from five samples, all from Roman deposits (except for one sample from disturbed natural). In all but one case, ancient remains were restricted to very small amounts of wood charcoal, although three also contained small amounts of material which appeared to be charred or uncharred humified peat and in three samples some cinder-like material may have originated in a source of organic material other than coal. There were also a few specimens which certainly or probably originated in cereal crops. In the fifth sample, there was a very small assemblage of charred remains comprising a few weed seeds, associated with a modest concentration of coal and coal cinder. The plant remains give some indication of the use of fuel at the site in the Roman period, which apparently included wood, coal and probably also peat (or perhaps turves), the last of these adding to a growing body of evidence for exploitation of this natural resource in the York area at this time.

No invertebrate remains were recovered from the deposits.

4.4 The Animal Bone

By Palaeoecology Research Services

This site produced a small assemblage of well-preserved vertebrate remains mainly recovered from deposits of late 1st- to 3rd-century date. Some evidence of residual or redeposited material was apparent and many fragments had also been damaged by both fresh breakage and butchery, resulting in a large component of the assemblage that could only be identified as large or medium-sized mammals. Despite these limitations a number of useful conclusions can be drawn from the analysis of this assemblage of vertebrate remains.

Although there were slight variations through time, cattle were clearly the dominant species represented throughout, suggesting that beef formed an important component of the diet.

Pork or bacon and mutton must also have been eaten, but to a lesser extent, although pigs were clearly of more significance in the later (3rd-century) period. There was no evidence for the utilisation of wild resources, the only wild species present (somewhat unusually) being whale, represented by a single vertebra.

Variations in the relative frequencies of the three major domesticates have been used to examine, amongst other things, the process of 'Romanisation' and how this might be reflected in the zooarchaeological record. In an extensive survey of vertebrate assemblages from a wide range of Romano-British sites, King (King, 1978, King 1984) found (in broad terms) that high frequencies of cattle, often over 70%, were more likely to be encountered on military sites, whilst caprovids were more common on all types of sites in the 1st–2nd centuries and typically had high percentages on 'unromanised' rural/native settlements throughout the Roman period. Relatively high proportions of pig remains, as seen in the 3rd century at The Starting Gate site (although the small size of the assemblage should be noted), have also been interpreted as an indication of more 'Romanised' settlement. King (King, 1978) also suggested that assemblages with 10% or more pig bones tended to be either from villa sites or 'Roman' settlement sites. Some researchers (e.g. King 1984, Dobney 2001) have also maintained that higher proportions of pig remains provide evidence of higher-status occupation.

The Starting Gate assemblage, with its high frequency of cattle from the late 1st century, falls within King's range for both military-type sites and some civilian sites. When the assemblage is compared with others from York, i.e. Tanner Row (O'Connor 1988), a possible civilian settlement, and the Minster Library site (Jaques 1999), located within the Roman fortress, there are clear similarities. It can be seen that all were dominated by cattle, with the values for Tanner Row being very similar to those from The Starting Gate site. The research by King suggests that there was a shift in emphasis to a diet based on beef and that this was a feature of the 'Romanisation' process, with the 'native' population adopting the culinary preferences of the occupying military force. Several researchers (Dobney 2001; King 1999; O'Connor 1988) have argued that the reliance on cattle is not typically 'Roman' in the strictest sense, but is more consistent with the diet of 'non-Romanised' native communities of the Low Countries, Germany and Gaul, adopted by the Roman military of the north-west province and exported to Britain. Nevertheless, the predominance of any one species may be related to factors other than purely cultural preferences. The Vale of York is particularly suitable for the rearing of cattle and this should also be taken in to consideration.

The Starting Gate site, however, is located outside the *colonia* but is situated adjacent to the major Roman road from York to Tadcaster. This area is likely to have been heavily influenced by the military, at least in the earliest phases and further evidence for this is the presence of sherds of late 1st- to early 2nd-century Ebor ware at the site. This pottery seems to have been manufactured under military supervision at York and distributed around the region using military supply networks (Ottaway 1998).

Other indications of an organised supply network, with possible central control, are the distinctive and characteristically 'Roman' butchery techniques encountered. The high number of cattle scapulae, many of which had been butchered around the glenoid and spine, probably represent cured shoulder joints, which may have been smoked or brined (O'Connor 1988; Dobney et al 1996). The trimming around the glenoid cavity possibly allowed access for

the salt into the meat on the bone. Undertaken correctly, meat salted in this way would be preserved and could be stored for some considerable time (Dobney et al 1996). Both the Minster Library site (Jaques 1999) and Tanner Row (O'Connor 1988) produced cattle scapulae with similar damage, and this practice was also recorded on scapulae from 1st-century deposits at the Holmes Grain Warehouse site, Lincoln (Dobney et al 1996), 2nd-century deposits at Papcastle, Cumbria (Mainland and Stallibrass 1990), and numerous sites on the Continent (Lauwerier 1988).

Similarly, the systematic chopping of all major elements and the splitting of long bones, probably for the extraction of marrow (Stokes 2000) is also a phenomenon recorded from many sites in this region (O'Connor 1988; Hamshaw-Thomas and Jaques 2000), elsewhere in Britain (Dobney et al 1996; Maltby 1979) and on the Continent (van Mensch 1974; Lauwerier 1988). These patterns suggest the systematic butchery of cattle carcasses that may represent the organised supply and provisioning of early Roman military and urban settlements (Dobney 2001).

Most of the cattle remains from The Starting Gate assemblage appear to be from adult animals, with dental attrition evidence suggesting the animals were between about five and nine years of age. King (King 1991) suggests that the presence of older animals on urban and military sites reflects the status of the inhabitants as consumers, rather than producers. Caprovids represented a wider range of ages than cattle, but a number of them appear to have been killed between two and four years of age. O'Connor (O'Connor 1991) suggests that this is the optimum age for the slaughter of animals that have been raised primarily for meat rather than for their wool or milk. Although little evidence is available, what there is suggests that pigs were slaughtered at a young age. They do not produce many useful secondary products and, therefore, tend to be killed once they reach a good meat weight.



Whale vertebra

Although remains of cetaceans have been recovered from sites of Anglo-Saxon and medieval date in the region (Dobney et al. in review; Gardiner 1997), they are rare and none (as far as the authors are aware) have been encountered on sites dating to the Roman period. The only known examples are two whale vertebrae that were found in a Roman pit during excavations at Island Road, Hersden, Kent (Harrison and Holmes 2003). The vertebra recovered from The Starting Gate site had probably been used as a chopping block, of which another example of slightly later date (Anglo-Saxon) has been documented at West Hythe, Kent (Gardiner *op. cit.*).

4.4 Conservation assessment report

By E. Paterson

Aims and Objectives

This report aims to meet the requirements of MAP2 (English Heritage, 1991) to produce a stable site archive (Phase2: Fieldwork). This has involved X-radiography and an assessment of the condition, stability and packaging of selected small finds. Urgent first-aid treatments have been undertaken as required, to enable safe storage for the long term. The potential of the assemblage for further analysis and research is also discussed (MAP2 Phase 3: Assessment). The condition of the various classes of material is summarised and indicators of unusual preservation are noted. There are recommendations for investigative conservation, for additional specialist support, and topics for further research are raised.

Procedures

The metal small finds were X-rayed using standard Y.A.T. procedures and equipment. Two sheets of film were used to produce a duplicate for archive purposes, and given a reference number in the YAT Conservation Laboratory series. X-ray numbers X5943 and 5947 have no duplicate copies due to a shortage of film at the time of X-radiography. The X-ray number was written on the packaging for each object X-rayed. Each image on the X-ray was labelled with its small find number. The plates were packaged in acid-free archival envelopes. The plate number was added to the YAT Online Photo Archive and linked to the IADB find record for each object.

Selected finds were examined under a binocular microscope at X20 magnification as well as viewing the X-rays were they existed. All material identifications were checked and observations made the condition and stability of the finds. Remedial conservation treatments were carried out where appropriate in order to stabilise the material for long term storage. Assessment and treatment details were recorded in the Conservation Work Record area on the Trust's integrated computer database (IADB) and the information can be printed out using SQL Query.

Quantification

A total of 112 small finds were assessed and six X-rays produced. Due to constraints on time and resources, the stone and tobacco pipe small finds were viewed briefly but do not have individual assessments recorded on the IADB. The number of objects in each material category is listed below:

Coins	8
Copper alloy	13 (excluding the coins)
Fired clay/tobacco pipe	11
Glass	9 (four wet-packed)
Iron	46
Slag	23
Stone	5

Assessment

Iron

The general condition of the ironwork varies but all finds have undergone some degree of corrosion resulting in the formation of a bulky outer corrosion crust combined with soil etc. which obscures any surviving surface detail. The radiographs give an indication of the extent of corrosion, with some objects showing substantial survival of the metal core whilst others appear to have undergone complete mineralisation with very little if any metal core remaining. In all cases disruption at the original surface of the object is evident, again to a greater or lesser degree. Some objects display cracking and lifting of surfaces away from the core and the formation of corrosion blisters and distortion of the surface form is also evident. No remains of associated non-ferrous metals or organic materials have been noted at this stage. Five iron objects have been selected for further investigative conservation; SF25 a possible textile processing spike, SF36 an unidentified cross-shaped object, SF59 a possible ballista bolt, SF92 an unidentified curved sheet and SF99 a possible stylus.

Non-ferrous Metals including Coins

The copper alloy varies in condition but is generally fairly heavily corroded with more than half of the recovered finds suffering from suspected bronze disease and therefore recommended for stabilisation treatment using benzotriazole prior to long term storage. One object SF61, a concave copper alloy disc with looped fastening, (possibly a buckle fragment), may have remains of white metal solder on the flange. No other associated materials were identified at this stage. Coins SF19 and SF65 were identified as benefiting from further investigative conservation in order to retrieve further information. One possible coin SF94 was recommended for further investigation in order to confirm its identification.

Fired clay

The fired clay consists of tobacco pipe fragments and fragments of possible furnace lining. All have been washed and appear to be dry and stable and suitable for long term storage.

Glass

Four items were wet-packed on arrival and have undergone cleaning and controlled air drying prior to long term storage. Five items were dry on arrival and varied in condition depending upon its composition. Some have opaque corroded surfaces which are fragile and flaking in some cases. These items should be stabilised prior to long term storage to prevent further disintegration. The dry glass has not been cleaned and is covered in patches of soil in most cases. This should be removed prior to long term storage if resources allow. No associated materials such as painted layers were identified at this stage.

Slag

The slag appears to be dry and stable and should remain so in desiccated long term storage <15%RH.

Stone

Brief examination of the stone found it to be washed dry and stable, requiring no further conservation prior to long term storage.

Statement of Potential

Indicators of preservation

No non-ferrous metals other than copper alloys were represented. The condition of the copper alloy and the high proportion of those with suspected bronze disease indicate a burial environment which is aggressive and does not favour the survival of metals. The extensive corrosion of many of the iron objects supports this. The iron corrosion products are bulky and orange/brown in colour indicative of iron from a damp well-aerated burial environment. Only two iron objects displayed patches of vivianite corrosion which is a common product on iron from waterlogged burial environments. The fact that no organic small finds were recovered from the site suggests that the waterlogged conditions indicated by this object are possibly isolated and limited to a very small area.

Dating evidence

Seven coins provided preliminary dating evidence when viewed by the numismatist, Craig Barclay. Two coins and one possible coin were recommended for further investigative conservation in order to confirm identification and provide a closer date.

Craft and Industrial activity

The identification of eight fragments of fired clay with vitrified surfaces, (possible furnace lining) and 23 fragments of slag could indicate a high temperature industrial activity such as metalworking on the site. SF25 may be an iron fibre processing spike and has been identified for further investigative conservation.

Other

SF 59, a possible ballista bolt and has been identified for further investigative conservation and an unidentified cross-shaped iron object with a possible looped end has also been recommended for further investigation.

Recommendations

Further Investigative Conservation

The investigative work recommended for the ironwork would involve selective partial removal of corrosion crusts for the purposes of research. Total removal of the corrosion crusts should be undertaken if illustration/photography is required for publication or the object is intended for display. Any investigative conservation of coins will be done in consultation with the numismatist. Documentation will be in digital form on IADB in the Conservation Work Record area. Selected finds may merit photographic or video recording as part of the documentation and digital images will be added to the Online Photo Archive.

Packaging and Storage

The finds have been packaged appropriately for long term storage in line with YAT current standards. Any replacement of packaging materials should be carried out in consultation with a conservator. Avoid paper or card labels in association with metals as acid vapours will cause active corrosion, (Cronyn, 1990). Metals and slag are packed in polythene 'Stewart' boxes with silica gel to provide dry microclimates of less than 15% Relative Humidity which will halt any further corrosion, (Knight, 1992). Each box should contain at least 6x100g bags of silica gel and

a humidity indicator strip. It is necessary to monitor the indicator strips regularly; if any part of the strip turns pink the gel will need to be regenerated. The non-metal finds bags have been packaged in heavy duty brown cardboard boxes suitable for long term storage.

4.5 Building Materials

By Jane McComish

Relatively little building material was recovered from the site in comparison with other excavated Roman sites in the York area. The building materials consisted of 35.7kg of Ceramic Building Material (CBM) which was mainly of Roman date and included roofing tiles (imbrex and tegula), Roman brick and combed flue tile from a hypocaust heating system. A small amount of medieval roofing tile of 13th- to 16th-century date, some fragments of medieval or post-medieval bricks, and modern sewer pipes and wall tiles were also recovered. In addition to the CBM there were just two Architectural Fragments only one of which was carved. The relative lack of building materials may imply that the structures on the site were largely of timber with thatched roofs.

4.5.1 The Ceramic Building Material

The site did not produce a particularly large collection of CBM, but despite this there were a number of features of interest. A full report on the material recovered can be obtained from YAT.

The Roman CBM

The bulk of the Roman CBM was very fragmentary and could represent fragments of either bricks or tegula; in such cases the material is automatically classed as Roman brick. The commonest form on site was classed as Roman brick. Two of the bricks had signature marks (Context 2104 and Context 2106) which were of types already identified in York (Betts Type 3 and Type 2 respectively Betts 1985, 192). Two further bricks had the eroded letters 'IX' on the surface (Contexts 1016 and 2105). These were clearly legionary tile stamps showing that the bricks were manufactured by the Ninth Legion *Hispana*, giving a manufacturing date of between c. AD 80–120, which is a very early date for bricks in York.



Flue tile with circular vent Context 2104 (left), Signature mark Context 2104 (centre) and Combed flue tile Context 2104 (right)

The Roman roof tile was in the form of tegula and imbrex. Two of the tegula were unusually thin; one example from context 1008 was 17mm thick with a flange 39mm high, while an

example from context 1003 was a mere 13mm thick with a flange 41mm high. It is possible that these examples represent the products of civilian tileries rather than military tile production. The date at which civilian production took over from military production is unclear.

Military tiles were still being produced by the Sixth Legion in the reign of Gordiana II in AD 238 and civilian stamped tiles are known from York, but how the two related to one another chronologically is unclear (Betts 1985, 126). A number of cut-aways were present on the tegula, but in many cases these were too damaged to determine a typology. There were however two examples from contexts 2028 and 1040 of a Betts Type E (Betts 1985, 160). No unusual features were noted on the imbrex.

There were three examples of combed box flue tiles of 2nd-century or later date (contexts 1013, 1029 and 2104). The fragment from context 2104 was of particular interest as part of a circular-shaped vent was present. Combed flue tiles are relatively rare and come from high-status buildings with hypocaust systems. A fragment of brick interpreted as possibly from a hypocaust was also found on the site in 1996 (Hunter-Mann 1996, 9). Although there was no direct evidence for a hypocaust structure on The Starting Gate site, there was presumably one nearby to account for the presence of the box flue tiles. This indicates that the settlement at Dringhouses must have had some high-status buildings.

Medieval and post-medieval CBM

Some medieval roofing tile of 13th- to 16th-century date and fragments of medieval or post-medieval brick were present. This material was all typical for York as a whole. One fragment of medieval roof tile from context 2101 was re-used as a pot lid. There was also a brick fragment from context 1035 which may be a deliberately moulded brick for architectural detailing on a building, or possibly a kiln prop of some kind which would imply CBM or pottery manufacture nearby. A small quantity of modern brick, sewer pipe fragments and wall tiles were also present.



Brick. Context 1035



Tile re-used as a pot lid. Context 2101

4.5.2 The Architectural Fragments

The site produced only two Architectural fragments, both of which were badly damaged. The first (AF1) was a roughly rectangular block with six dressed faces, one of which had a deliberate groove on it. The function of the groove is unclear, but it may have represented part of the letter D. This may therefore have been part of a tomb inscription, given that other tombstones have been found in the area, and represents a significant find. The second

fragment (AF2) was a roughly cut rectangular block of masonry with no tooling visible. This was probably originally part of a building wall. A small fragment of carved stone that may also be from a tomb marker was also recovered from the site (SF105). This is described in the Artefacts section.

4.5.3 Conclusions

The most interesting aspect of these finds is the relative lack of building material recovered, which is in striking contrast to the large quantity of pottery recovered from the site. The lack of material which could be positively identified as walling bricks, the virtual lack of building stone and the total lack of both Roman mortar and *opus signinum* was surprising. It implies that the walls of Buildings 1 and 2 were primarily built from timber rather than from brick or stone. The bulk of the CBM was roofing tile, implying that Buildings 1 and 2 probably had tile roofs.

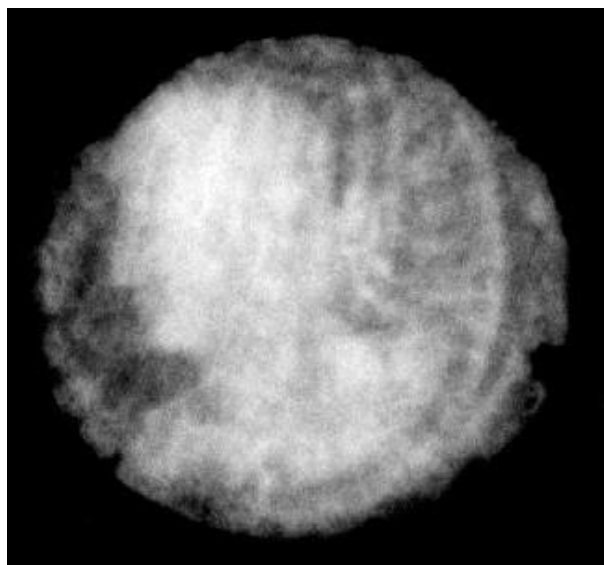
4.4 Artefacts

4.4.1 The Artefacts

By Nicola Rogers

Summary

A total of 112 small finds were recovered and assessed, the majority of them being metalwork. One of the largest elements of the assemblage is debris from high temperature metalworking in the form of slag and apparent furnace lining - this was primarily recovered in Trench 2, and in large quantities from contexts [C:2072], [C:2055] and [C:2060]. A much smaller amount came from Trench 1.



SF00075 more detailed X-ray image of coin

Roman finds include up to 9 coins (identifications to be confirmed), 8 of which were found in Trench 1. Other Roman objects include a frit melon bead (context [C:1003]), ?Roman vessel glass (contexts [C:2028], [C:2001], [C:1003]), a spindle whorl made from a Samian sherd (context [C:1029]), and a possible iron stylus ([F:SF00099], context [C:1036]). A socketed iron object, possibly a ballista bolt (context [C:1049]), and part of an openwork copper alloy fitting

or belt plate (context [C:2028]) may both be of Roman military origin. A possible Roman tomb marker ([F:SF00105], unstratified) was also identified.

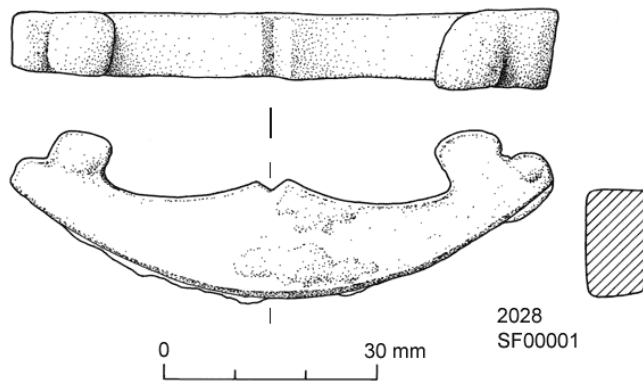
One medieval object - a copper alloy buckle - was found in Trench 2 (context [C:2063]), and post-medieval material in the form of vessel glass and tobacco pipes were also retrieved (contexts [C:1001], [C:2001], [C:1003]).

Apart from metalworking, another find associated with working life is a large millstone fragment (context [C:2001]), although it is not certain that this was used on this site. As ever, structural ironwork, largely nails, also forms a major element of the material. The remainder of the assemblage is largely of a domestic nature, including the spindle whorl, and a needle of uncertain date (context [C:1004]), a possible gaming counter (context [C:2001]), the frit bead and possible stylus.

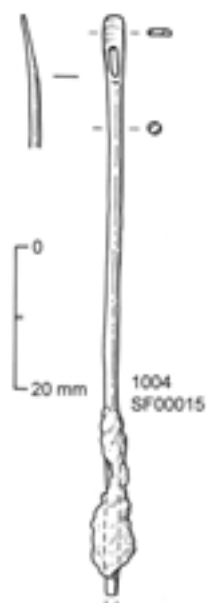
The Artefacts

The site produced a small but varied group of objects, many of which are Roman. The Roman finds include eight coins (see below), a frit melon bead (SF20), Roman vessel glass (SF53, SF85, SF95), a counter made from a sherd of Roman glass (SF56), a spindle whorl made from a sherd of Samian pottery (SF74), a copper alloy needle (SF15) and a possible bucket foot (SF1). A socketed iron ballista bolt (SF59), and part of an openwork copper alloy fitting or belt plate (SF3) are both of Roman military origin.

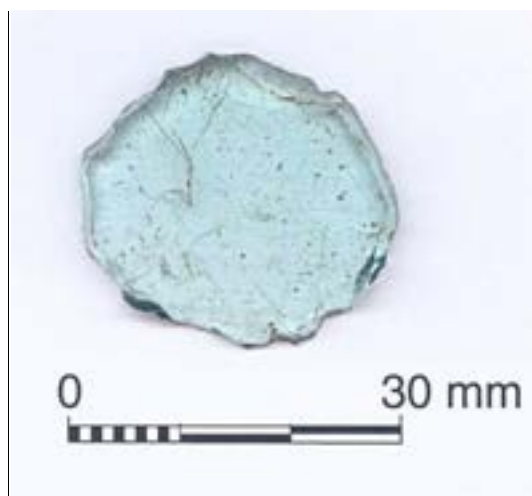
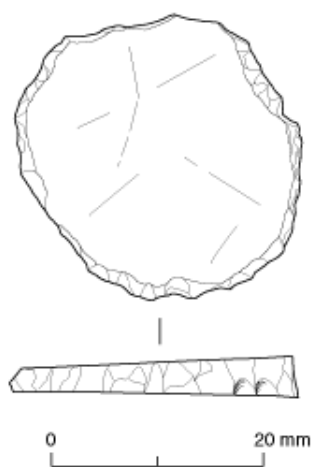
Many of these objects were recovered from Phase 5 deposits, but probably derive from earlier activity. The vessel glass includes the probable base of a wheel-cut beaker or cup of the mid- to late 2nd century (SF53) (Price and Cottam 1998, 94-5) of which six were found at the fortress site of 9 Blake Street, York (Cool et al. 1995, 1573). SF85 and SF95 include fragments of prismatic bottles (bottles of polygonal section) which were current from the 1st to early 3rd centuries (Cool et al. 1995, 1580). Another possible vessel fragment is SF1, which appears to be a copper alloy bucket foot (Brewer in Zienkiwicz 1986 Vol.2, 173, fig.56, no.8). It is tempting to view these fragments as coming from vessels used in the putative *mansio* building, where the recovery of other vessel fragments, namely ceramic flagons, amphora and mortaria led to the suggestion that the site was, in its early phases, heavily involved with the storage, preparation and serving of food and drink (see The Interpretation of the Site). Similarly, the glass counter SF56, although from a post-medieval deposit, has been made from a Roman glass sherd, as Roman counters sometimes were (Cool et al. 1995, 1608), and may have been used recreationally at this period.



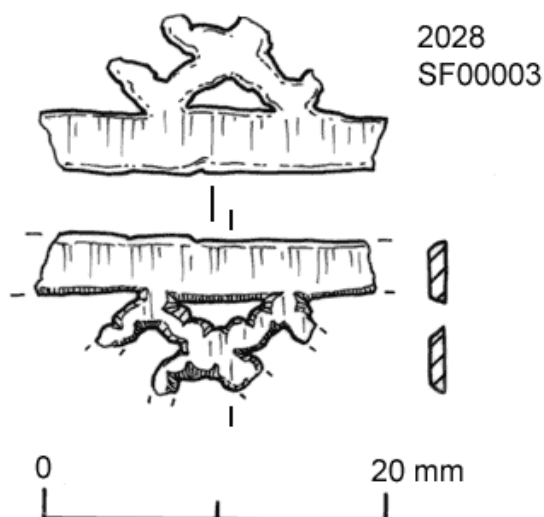
Bucket foot SF1



Needle SF15



Glass counter SF56



Belt fitting SF3

Also from a Phase 5 deposit, but possibly dating to the later 1st–2nd century is (SF3). Although little of this object now survives, it is probably a fragment from a military openwork belt plate: a similar example was found in an early 2nd-century deposit at Catterick (Lentowicz in Wilson 2002, 62, fig.253, no.167). The ballista bolt or catapult bolt-head (SF59) was also found in a Phase 5 deposit; attached via a socket, the solid head is now incomplete. These bolt-heads appear to have been in use throughout the Roman period (Manning 1985, 175), and another was found at Lawrence Street, York (Evans 2004). The frit melon bead (SF20) is another object found residually. Although retrieved from a post-medieval context, it is likely to date from the 1st or possibly the 2nd century, and is a bead form frequently associated with military sites (Cool and Price in Wilson 2002, 259, fig.349, nos.1-8). Frit is the result of the first stage of glass production, and is a partially fused material, often used by the Romans to make beads.

Two tools used in textile working were found: a spindle whorl made from a sherd of imported Samian pottery (SF74) is of a typical Roman form, as is a copper alloy needle (SF15) with its flat spatulate head and rectangular eye (Crummy 1983, 65, Type 2).

There was also a fragment of carved stone with a convex upper edge and carved relief decoration (SF105). Although the precise function of this object is unclear, it could be part of a tomb marker.

Apart from the Roman finds, one medieval object, a 14th- or 15th-century copper alloy forked spacer buckle, was identified (SF2), and much of the remaining material in the form of vessel glass and tobacco pipes is post-medieval.

Finally, a large millstone fragment (SF106) tentatively identified as of millstone grit, was found in post-medieval levels, although it is not certain that this was used for milling on this site.



Fragment of carved stone

4.4.2 *The Metalworking*

By Catherine Mortimer

Two trenches were excavated and revealed Roman contexts, including a Roman road, ditches, three burials, a large Roman building, smaller buildings and a cobbled surface. In Trench 2, a hearth was recorded (context 2070), with several use deposits including charcoal and ash. Twenty-nine small finds (total weight 4.3kg) associated with high-temperature activities were characterised, as far as possible, and weighed.

Most of the material examined is fired clay, vitrified clay or iron slag, or a mixture of these types. Both oxidised and reduced fired clay is present at the site. Some of the fired clay is not necessarily diagnostic of metalworking use, since a small amount of slagging may result from contact with ashy material in any high-temperature activity, including domestic cooking. However some of it is found in contact with iron slag. Other pieces of fired clay had been subjected to higher temperatures, leading to vitrification. Vitrified clay associated with ironworking slags may be the remains of furnace or hearth structures; some of this material had been at a sufficient temperature to produce a bloated and even dribbly appearance. The iron slag at the site is mostly in quite small pieces. Hammerscale can be seen as a type of micro-slag. At this site, a survey with a magnet picked up small amounts of flake hammerscale amongst the dried debris in the sample bags for two of the small finds; this is typical for a smithing site, as flake hammerscale is mostly produced whilst forming artefacts from blanks. There is no evidence for smelting or for any other types of metalworking.

The evidence at the site shows that smithing was carried out at or near the site. Further ironworking debris may have been removed when areas were cleared for building in the 20th century, but the current excavation only reveals a small amount of evidence.

4.4.3 *The Coins*

By Craig Barclay

The following are the coin identifications for the site:

SF4: AE barbarous radiate c.AD 260+ light wear

SF18: AE radiate Tetricus I, rev. PAX AUG light wear AD 270–73

SF19: AE Dupondius; Domitian; AD 88–90

Obv.) Radiate bust right; []COS XIII C[]

Rev.) Illegible

SF65: AE As; Marcus Aurelius; AD 161–180

Obv.) Laureate bust right

Rev.) Mars advancing right, holding spear and trophy

SF75: AE 4 House of Constantine I, rev. GLORIA EXERCITUS (1 standard) c.AD 335–47 light wear

SF76: AE 4 House of Constantine I, rev. GLORIA EXERCITUS (1 standard) c.AD 335–47 light wear

SF77: AE 4 House of Constantine I, rev. GLORIA EXERCITUS (1 standard) c.AD 335–47 light wear

SF78: AE 4 House of Constantine I, rev. GLORIA EXERCITUS (1 standard) c.AD 335–47 light wear

SF94: illegible (unidentifiable)

4.5 Pottery

By Ailsa Mainman

(The Roman Ceramic Periods referred to below are as published in Monaghan, J., 1997. Roman Pottery from York, *Archaeology of York* 16/8.)

Trench 1

Group 2

Context [C:1051] produced pottery. Taken as a group the pottery fits comfortably into Monaghan's Ceramic Period 2a which is dated to the Hadrianic/early Antonine period (c.120-150). There is a considerable quantity of Ebor flagons including both ring-necked types and white-slipped flagons as well as a smaller quantity of other Ebor forms of the late 1st and early 2nd century. Ebor ware is closely associated in terms of both date and production with the Ninth Legion then occupying the fortress in York. There are also copious sherds of amphorae, principally from Dressel 20 and Pelichet 47 types used to transport olive oil and wine from Spain and France. Fragments of various types of mortaria drawn from a number of sources, indicate food preparation on site. There are small amounts of Samian ware.

Group 5

Context [C:1023] produced pottery of Ceramic Period 2a (Hadrianic/early Antonine c.120-150). Once again there are considerable quantities of Ebor ware white-slipped flagons together with samian wares, amphora fragments and other minor wares.

Group 6

Context [C:1039] produced pottery of Ceramic Period 2a Hadrianic/early Antonine c.120-150 Group 6 resembles Group 5 although there is a greater quantity of grey wares. ;Group 9:Contexts [C:1013] and [C:1016] produced pottery of Ceramic Period 2a Hadrianic/early Antonine c.120-150. This group produced a huge quantity of pottery. Over 250 amphora

sherds (including stamped handles) were recovered. These are predominately Dressel 20 types from Spain but include French wine amphora and amphora from other sources. Ebor wares dominate the assemblage with a strong emphasis on flagon sherds, both white-slipped and plain, but also including Ebor red-painted wares and mortaria. Small amounts of other wares, including decorated Samian forms are present.

Group 10

Context [C:1040] produced pottery of Ceramic Period 2b mid/late Antonine c.150-200. This context is likely to be a little later in the 2nd century than Group 9 on the basis of the BB2 lattice decorated bowl.

Group 12

Contexts [C:1044] and [C:1053] produced pottery of Ceramic Period 2a Hadrianic/early Antonine c.120-150 or Ceramic Period 2b mid/late Antonine c.150-200. Only a few sherds were recovered which might well be residual.

Group 13

Contexts [C:1008], [C:1014], [C:1035] and [C:1038] produced pottery of Ceramic Period 3a. AD 200-225 Severan/Caracallan There is a considerable quantity of what must be residual pottery in this group, but also a significant proportion of 3rd century grey wares and the first indication of Knapton ware. A single sherd of medieval glazed ware in 1014 is likely to be contamination.

Group 14

Contexts [C:1004], [C:1034], [C:1222], [C:1221], [C:1171], [C:1047], [C:1049] and [C:1052] produced pottery of Ceramic Period 3a AD 200-225 Severan/Caracallan or mid 3rd century. A high proportion of residual wares dominate the assemblage from this group but a mid 3rd century date is given by the presence of a range of grey wares including Dales wares, Knapton wares and other early calcite-gritted wares.

Group 16

Contexts [C:1002], [C:1006] and [C:1007] produced pottery of Ceramic Period 3a 200-225 Severan/Caracallan or mid 3rd century. The assemblage in Group 16 closely resembles that in Group 14.

Group 17

Contexts [C:1001], [C:1003], [C:1012] and [C:1030] produced pottery. This group contains the full range of Roman pottery seen on the site with a few later calcite-gritted wares. In addition, there is a small amount of medieval and post-medieval pottery in the group.

Trench 2

Group 19

Contexts [C:2020], [C:2030], [C:2045], [C:2081] and [C:2079] produced pottery. The majority of the pottery is Roman, but the presence of Norman Gritty ware, medieval jug fabrics and Humber ware is evidence that contexts 2020 and 2045 in this group were contaminated by the fills of ditch 2021 ([Group 35]).

Group 20

Context [C:2154] produced pottery of Ceramic Period 2a/b. A single Ebor ware sherd was recovered.

Group 21

Contexts [C:2125], [C:2155] and [C:2108] produced pottery. Only a few scrappy sherds were recovered and are probably mostly residual from Ceramic Group 2a. Two sherds of Humber ware in 2125 remain difficult to explain.

Group 22

Contexts [C:2072] and [C:2107] produced pottery of Ceramic Period 2b mid/late Antonine c.150-200. Assemblages from these contexts include a great deal of earlier (Ceramic Period 2a) material as well as material of the later 2nd or possibly early 3rd century.

Group 23

Contexts [C:2115] and [C:2144] produced pottery of Ceramic Period 2b mid/late Antonine c.150-200. Only three sherds, probably all residual, were recovered from this group.

Group 24

Contexts [C:2068], [C:2105], [C:2091] and [C:2142] produced pottery of Ceramic Period 2a/b. There is no pottery later than 2nd century from these contexts and the range of wares and forms is much as seen previously.

Group 26

Context [C:2128] produced pottery. The plain but sooted vessel from this burial is likely to be later 2nd or early 3rd century in date.

Group 27

Contexts [C:2032], [C:2113], [C:2121] and [C:2016] produced pottery. Amongst the range of 2nd and 3rd century Roman material from this group were recovered several 13th century glazed jug sherds.

Group 28

Contexts [C:2026], [C:2028] and [C:2018] produced pottery of Ceramic Period 3a AD 200-225 or mid 3rd century. There is a significant quantity of residual 2nd century wares but the group overall can be dated to the first half of or mid-3rd century on the basis of the grey wares and the early calcite-gritted wares.

Group 29

Contexts [C:2106], [C:2136] and [C:2104] produced pottery of Ceramic Period 3a AD 200-225 or mid 3rd. The assemblage from Group 29 closely resembles that from Group 28.

Group 31

Contexts [C:2076], [C:2074], [C:2078], [C:2083], [C:2061], [C:2048] and [C:2080] produced pottery. There is little material from these contexts, with the exception of Context 2048 which

contains a high proportion of 2nd century wares but also wares belonging to CP3a or the mid 3rd century. A piece of drainpipe in 2061 is the result of contamination.

Group 32

Context [C:2071] produced pottery of Ceramic Period 2b or a little later.

Group 33

Contexts [C:2117] and [C:2111] produced pottery. Only 7 sherds (all probably residual 2nd century types) were recovered.

Group 34

Contexts [C:2044], [C:2062] and [C:2063] produced pottery. This group contained a mixed assemblage of 2nd and 3rd century wares together with a few sherds, including two rims, of what might be handmade Anglo-Saxon forms. Context 2063 also contains medieval Brandsby-type and Humber wares.

Group 35

Contexts [C:2021], [C:2126] and [C:2038] produced pottery. These contexts contained mainly Roman residual wares, but also sherds of Norman wares (Stamford ware and Gritty ware) and medieval jug sherds.

Group 36

Contexts [C:2025], [C:2041] and [C:2001] produced pottery including the full range from Roman to 20th century. The majority of the wares from these context are residual 2nd century types.

Summary

This is a very interesting and important assemblage of pottery, especially that which relates to the early use of the buildings on the site. Amongst the early groups is material which relates to the earliest production of Ebor ware, which was established soon after the Ninth Legion established their fortress in AD 71. The main period of production of Ebor ware is c.71-c 225 and developments can be seen during its period of currency. Several types of Ebor ware are present on the site including burnished, white-slipped and red-painted wares.

Although no groups can be clearly identified as Monaghan's Ceramic Group 1, there are clearly elements within the earliest groups on the site that could have been produced in the Flavian/Trajanic period. These groups, however, also include some of the defining characteristics of his Ceramic Group 2a, when the white-slipped flagons, which are noted in such quantities, reach their peak in popularity. The profusion of white-slipped flagons, together with the high quantities of amphora and mortaria fragments, all suggest that the site was, in its early phases, heavily involved with the storage, preparation and dispensing of food and drink.

Flagon, mortaria and amphora fragments remain the dominant forms throughout the Roman levels, although much in the later phases is likely to be residual from earlier activities. Samian wares (mostly Central Gaulish types and including one or two fragmentary stamps) are present throughout in moderate quantities, again consistent with activities relating to the preparation

and consumption of food. There is a range of amphora types, including a number of stamped examples, which will require specialist attention; most are believed to be Dressel 20 and Pelichet 47. There is similarly a range of mortaria provenances represented including oxidised Ebor examples, occasional Samian mortarium sherds as well as the more common Mancetter - Hartshill and Lincolnshire types. One or two stamped mortaria exist and again specialist attention will be required to determine more precise origins.

Apart from these wares, there are few fine imports. Nene Valley wares make a small contribution to the assemblages but there are very few fine imported wares which characterise the early Ceramic Phases on some sites in York. Either this is an indication of the status of the site or, more probably, its function as an inn or mansio.

The site continued in existence through the 3rd century as indicated by the increasing quantities of grey wares and the appearance of Dales and Knapton wares. How far the chronology can be tracked into the later 3rd century remains problematical, however, as some of the key indicators (i.e. the later calcite-gritted wares and Crambeck products) are very rare. This suggests either limited occupation beyond the mid 3rd century or that these levels have been cleared prior to later construction activities on the site.

There is a handful of sherds ([Group 34]) which are clearly handmade and which might be Anglo-Saxon (6th-8th century?) in date, but nothing which relates to the Anglo-Scandinavian period. A single Stamford ware sherd and occasional sherds of Norman gritty ware indicate some limited activity in the 11th-13th centuries. The medieval occupation on the site is also poorly represented by a few glazed jug fabrics which span the 13th-15th centuries. Post-medieval material was recovered from some later features, but a clear post-Roman sequence on the site as a whole is difficult to establish.

The most interesting material is clearly that which relates to the 2nd century occupation of the site. An assemblage whose composition is so clearly a result of the site's function is rare and exciting, and worthy of detailed analysis. All stages from food provisioning, preparation and consumption are represented. This site has the potential to offer a rare glimpse of a wayside hostelry, presumably frequented by civilian and soldiery.

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