

**14-20 THE BUTTS, WORCESTER
November 2004**

**Post-Excavation Assessment
and Research Design**

Project No. 1097
November 2004

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14-20 THE BUTTS, WORCESTER November 2004

Post-Excavation Assessment and Research Design

1.0 SUMMARY

An archaeological excavation was undertaken by Birmingham Archaeology on land at 14-20 The Butts, Worcester (NGR SO 8473 5512). Miller Homes commissioned the work in advance of a proposed housing development. Four area excavations were excavated between August and October 2003, with a subsequent watching brief on the site continuing until April 2004.

The site lies within the historic core of the Roman and medieval city. The earliest phase was of Roman origin (2nd-4th century) and consisted of a stone surface, which may represent a Roman road or street with associated ditches. Other features comprised postholes, pits and a stone-lined well. Roman features in parts of the site had been heavily truncated or were totally destroyed by post-medieval activity when levelling for building construction had taken place. Large amounts of iron waste products suggest that iron working had taken place in the locality. Most of the Roman features were sealed by a garden-like soil, a layer of 'dark earth' which has previously been exposed on sites in Worcester and in other Roman towns in Britain. This contained large quantities of Roman finds, including coins, ceramics and bone.

An archaeological watching brief carried out during the laying of ring beam foundations and the removal of contaminated ground This identified pits, postholes, a road surface and a sandstone well of possible Roman date. The northern edge of a large ditch aligned east-west across the southern extent of the site may relate to activity during the Civil War.

2.0 INTRODUCTION

2.1 Background to the project

This report outlines the results of four archaeological areas and a watching brief at 14-20 The Butts, Worcester (NGR SO 8473 5512, Fig. 1), hereinafter referred to as the site. The excavation was carried out in advance of the demolition of existing industrial units on site followed by the erection of 77 residential units with associated car parking and landscaping. The excavation and watching brief was carried out by Birmingham Archaeology on behalf of Miller Homes (West Midlands) Ltd in advance of the proposed redevelopment of the site. The archaeological monitoring was carried out in accordance with the guidelines set down in *Standard and Guidance for Archaeological Watching Briefs* (Institute of Field Archaeologists 1999). The results of the evaluation are described in an earlier Birmingham Archaeology report (PN741.01)

The site (Fig. 2), located on the north side of The Butts, is approximately 0.45 ha in area and was temporarily used as a roughly surfaced N.C.P car park once industrial units on

the site were demolished. Netherton Lane borders the site to the east, to the west a council yard and to the north a railway viaduct. The southern extent of the site fronts onto The Butts.

Two types of geology are known within the site. The eastern half of the site comprises Second (Worcester) Terrace deposits of the River Severn. The western half comprises Eldersfield Mudstone Formation of the Triassic Age. Geotechnical surveys in 2000, 2001 and 2003 suggested this was sealed by made ground from 0.4 to 3.1m in depth below the ground surface.

2.2 Historical and archaeological background by *Roger White and Richard Cuttler*

THE PREHISTORIC PERIOD

There is no evidence of prehistoric activity within the site, however a small amount of lithics and prehistoric pottery from excavations to the north (Kardonia, Fig. 3) have hinted at prehistoric activity in the area (CAS 1995 and Dalwood et al. 1997). This would change our understanding of early settlement in Worcester, since formerly the focus of settlement was thought to lie in the southern part of the historic city (Barker 1969, 14-15). Settlement here might perhaps be associated with the Droitwich salt trade, since it has been argued that Castle Street (formerly Salt Lane) was in origin a prehistoric trackway. The presence of prehistoric settlement in this area is not clear and most of the evidence seems to point towards agricultural exploitation of the light sandy soils.

THE ROMAN PERIOD

While an excavation at Sansome Street to the east of Foregate Street, failed to uncover any evidence of Roman activity (Darlington 1988), significant Roman remains were found during excavations at Farrier Street, Love's Grove and Kardonia (Fig. 3). Two further excavations were undertaken at Castle Street, adjacent to the Kardonia site (Dalwood et al. 1997 and Jones and Vyce 2000). Excavation work at 1 The Butts (Napthan 2004, Figs. 2 and 3) identified cut Roman features in a small berm between the medieval city wall and ditch. These included a well, which produced an assemblage of late Roman pottery.

The main focus of the Roman settlement lay to the south of the site (Fig. 4), enclosed by extensive earthwork defences that have been located at Lich Street (Barker 1969). The settlement appears to have had a largely industrial basis, and excavations at Deansway produced evidence for iron-working of 2nd to 3rd century date along with a background of agricultural activity throughout the Roman period (Dalwood et al. 1994, 105).

A major Roman road extended north from the defended area of the Roman town (Fig. 3) towards the forts at Greensforge, Staffordshire. Immediately to the east of the excavation the road was recorded at Broad Street and Farrier Street (Dalwood et al. 1994). However it was not located in an evaluation on the line of the road at 3-5 The Butts where it had presumably been removed by the medieval city defences (Bretherton 1998). A cobbled surface at Mag Court has been interpreted as a yard rather than a road and is suggested to lie adjacent to and west of this road (Edwards 1990). All of these sites, in addition to the Kardonia excavation and with the exception of 3-5 The Butts, have produced evidence

for iron working in the form of waste products or small furnaces. This ties in with references to earlier discoveries of scatters of iron- slag in the northern suburbs of Worcester, indicating an extensive industrial area (Dalwood et al 1994). The dating of such activity centres on the 2nd and 3rd centuries at the Deansway site but on the 3rd and 4th century at Farrier Street, suggesting a possible shift in focus of iron working activity.

Foregate Street may represent a second Roman road heading north from the centre of the settlement; this has been argued on several accounts. Firstly, the High Street, and its continuation in the form of the Foregate Street-Tything Road follows the spine of the gravel peninsula underlying the city. The streets form an axial ridgeway around which much of the medieval and modern city has developed. Secondly the High Street passes through the Roman earthwork defences via an apparent gate and slag metallurgy was also recorded at a depth of eight feet (2.7m) below the modern street. This has not been confirmed as Roman, but may have been part of the Roman road (Barker 1969, 50-51). Finally a Roman road on the High Street-Foregate Street line would serve as a termination to the regular series of three east-west minor Roman Streets found in the Deansway excavations south of Broad Street (Dalwood et al 1994; Mundy 1989).

To the east of Foregate Street lies another suspected road, thought to be heading northeast via the Lowesmoor area to link Worcester with the salt-production centre at Droitwich; this is the *bradan straete* recorded in an Anglo-Saxon charter of 1038 (S1393 : Hooke 1980).

In conclusion, it is thought that Roman occupation is centred on the area enclosed by earthwork defences beneath the medieval city (Fig. 4). However, occupation clearly extends for at least a further 0.5 km to the north in a ribbon development along at least one road (to Greensforge), possibly for c. 250m along High Street-Foregate Street. This occupation may well be intermittent rather than continuous and could have varied in extent chronologically and laterally. The site lies within this corridor of occupation, along the west side of the Greensforge road (Dalwood et al. 1994) and to north of the defended area.

THE EARLY MEDIEVAL PERIOD

Evidence of post-Roman activity in the area is limited to the discovery of very late Roman pottery on Castle Street. There is also evidence for the continued use of the southern end of the Roman road found at the Broad Street, Blackfriars, and Farrier Street sites (Mundy 1986). At excavated sites throughout the area Roman levels are invariably sealed with a deposit of 'dark earth', a garden-like soil which is a well-known phenomenon in other Roman towns in Britain. At Farrier Street the level was at least 1m thick (Dalwood et al. 1994, fig. 6), and at the Kardonia site was up to 1.2m thick (Robin Jackson, pers. comm.). The nature of such soils has been debated (Esmonde Cleary 1989, 147-8) but scientific analyses, such as that carried out at Farrier Street (Macphail 1994), demonstrate that in Worcester these soils contain abundant charcoal, iron slag, daub and animal coprolites. This indicates the presence of household refuse, which has been reworked through both agricultural activities and local fauna, especially earthworms.

Castle Street to the north and Sansome Street to the east (Darlington 1988) provided evidence for dark earth deposits. (0.6m in depth in each case).

While this evidence fails to identify any post-Roman occupation the gradual accumulation of humic soils would appear to have resulted from farming or gardening. The reference to farming presupposes some occupation, which may have utilised structures constructed largely from organic components and therefore subject to almost total decay. Given the generally small-scale nature of the excavations and evaluations on the various sites within the northern suburb, it would be very difficult to spot any ephemeral buildings of the type that could be expected in this period (White 2000). Only large-scale open area excavation would be able to demonstrate occupation levels in such soils. Interestingly Macphail observes the presence of quite large stone-size material in the late Roman soils and concludes that the 'dark earth' levels were once thicker but had been reduced by later activity (Macphail 1994, 84). The presence of stone may also signify buildings such as those identified in 'dark earth' soils at Wroxeter (Barker et al. 1997) and, retrospectively, at Chester (White 2000).

THE MEDIEVAL PERIOD

The site lies to west of the known Foregate suburb, a planned urban extension developed by one of the bishops of Worcester on his manor of Northwick. The rear plots of this suburb terminated at a parallel rear service lane, the present Farrier Street. Archaeological investigations to the rear of these plots at Love's Grove and Rea's timber yard failed to recover any evidence of medieval activity (Dalwood 1994, 107), which implies that these areas, including the site, were open fields in agricultural use. The new city defences were built c.1200, the line of which was defined by the North Gate (approximately on the site of the Hop Market and in place by 1182), the city wall and the city ditch (Fig. 4). Excavations at 1, 3-5 and 5-13 The Butts (Napthan 2004, Figs 2 and 3) excavated sections across the medieval defences on the south side of The Butts. It seems likely that the site remained unoccupied, as it was now directly to the north of and outside the city wall and ditch, although there is a slight possibility of garden use with associated small-scale and temporary buildings (Kenyon 1999, 17).

EARLY POST-MEDIEVAL PERIOD AND THE CIVIL WAR

The Butts continued to define the line of the city wall during the Civil War and two gun bastions are shown on the 1651 map of the city, immediately south of the site. The ditch of one of these has been seen in an evaluation at 8-12 The Butts carried out on the line of the wall (Jackson 1992). A Civil War ditch was also recorded in small trench at Farrier Street. Beyond the bastions the area is depicted as open ground, which would be required to provide adequate firing zones. However, this appears to reflect the continuation of open areas from the medieval period. It is possible that the preparation of the site for a bastion, or the clearance of the line of fire from a nearby bastion, would both have had the possible effect of removing archaeological deposits from the site.

2.3 Aims

The aims of the excavation were to:

- Characterise, date and plot the Roman activity across the site and its relationship to surrounding sites.
- Characterise the nature of Post-Roman activity on the site, including dark earth deposits and occupation alongside the north-south road.
- Characterise the nature of medieval, extra-mural activity on the site.
- Locate and characterise any Civil War defensive or other works on the site.
- Examine the nature of Post-Medieval remains on the site, including remains associated with Netherton House.
- Examine evidence relating to the economic and social development of the site in the Roman, medieval and post-medieval periods.
- Examine evidence for activities which may have been carried out on the site during the Roman, medieval and post-medieval periods (e.g. industrial or domestic).

3.0 METHOD

Four archaeological areas were excavated (labelled A, B, D and E, Fig. 2). Areas A and D measured approximately 10m long by 7m wide, Area B measured 10m long by 6m and Area E was 24m long and 10m wide. Two of the areas (A and B) examined Roman features highlighted by the evaluation (Trenches 1 and 3). Part of the street frontage, which had not previously been evaluated was subject to excavation (Area D). Area E was located to recover archaeological evidence associated with the projected line of the Roman road (Figs. 2 and 3).

The modern overburden was removed from the trenches using a J.C.B. excavator fitted with a toothless ditching bucket; in areas where the surface was concrete or tarmac a mechanical breaker was used. The overburden was removed under archaeological supervision using a 360 degree tracked machine fitted with a toothless ditching bucket to the uppermost surface of the archaeological deposits. Further sampling was by hand excavation. All stratified finds were collected by context and, where appropriate, individually recorded in 3 dimensions.

All features and trenches were photographed with black and white and colour slide film. The stratigraphic sequences were recorded using proforma context and feature record cards, supplemented by plan and section drawings at appropriate scales. All recovered finds were taken to Birmingham Archaeology for processing, conservation and analysis.

Twenty litre soil samples of dry deposits were collected from datable and well-defined features for environmental analysis. Where the contents of features was less than this amount they were sampled to 100%.

All features were surveyed using a Total Station EDM (initially 'Fast Map') and the results mapped onto AutoCAD software. Spot levels were taken where appropriate and all levels were recorded relative to the Ordnance Survey datum.

Recording was by means of pre-printed *pro-formas* for contexts and features, supplemented by plans (at 1:20 and 1:50), sections (at 1:10, 1:20 and 1:50), monochrome and colour print, and colour slide photography. The written, drawn and photographic archive, together with artefacts recovered and a copy of the excavation report will be deposited with an appropriate museum.

Following the trial trenching and excavation of four evaluation areas, a watching brief was undertaken. This involved continual archaeological monitoring during the removal of contaminated ground in the northern half of the development site. An area (Area F, Figs. 2 and 5) of approximately 100m sq. was stripped of overburden to reveal the natural subsoil at a depth of approximately 0.3m to 0.4m. These features were planned at 1:50, photographed and preserved *in situ*. The ground-works for ring beams involved the opening of trenches around the concrete piles. Any archaeological deposits present in these areas were hand-excavated prior to the lowering of the ground level.

4.0 RESULTS

4.1 Area A, Fig. 6

Prior to the full dating of features the excavation results have been described by area. Once the specialist reports have been completed the results will be analysed and the narrative ordered by phase.

ROMAN FEATURES

No deposits pre-dating the Roman period were recorded. The natural orange fine sandy subsoil (1030) was uncovered at a depth of 18.62m AOD. Towards the middle of the area the natural was cut by three possible stake holes (F110-F112). Measuring between 0.07-0.09m in diameter and 0.06-0.08m deep, they were filled with distinctive dark brown silty sand but produced no datable finds. An oval pit to the north (F113) measured 0.60m in diameter, 0.38m deep with near-vertical sides and a flat base. It was filled with silty sand (1027) and was also devoid of finds. These features were overlain by a light brown sandy silt (1034) varying between 0.24 and 0.35m in depth, which produced a small number of Roman pottery sherds. This was in turn sealed by a very well preserved cobbled surface (F100, 1006), generally between 0.13 and 0.20m in depth, which may represent a Roman road or street. The surface produced a variety of finds such as Roman pottery, iron slag, tile, mortar and animal bone. Amongst the small finds retrieved was a Roman coin, in addition to a number of copper alloy objects. A thin layer of light brown clay sand (1022) overlay the surface and produced occasional pieces of animal bone.

Areas of smaller stones and slag (1019) suggested signs of repair. The cobble surface was aligned roughly east-west and had a distinct camber, sloping markedly from south to north. The height varied from 18.76m AOD at the southern most edge of the surface to

18.35m AOD towards the northern edge of excavation, where the cobbles were spread more infrequently. The surface had been truncated towards the northeastern limit of the area by a post-medieval pit (F105) and extensive levelling for the car park.

Area A was extended by 7.50m to the south to identify the southern extent of the cobbles, which was defined by an east-west aligned ditch (F109=F107). Two sections were excavated across the ditch, which measured approximately 3.70m wide with a U-shaped profile. The ditch was 0.90m deep and comprised of three distinctive fills. A primary fill of grey sandy silt (1033=1032) was overlain by charcoal flecked silty sand (1028=1023), which produced Roman sherds. The upper fill was clay-sand (1020=1015) and contained over 200 sherds of Roman pottery, animal bone and daub. The northern edge showed signs of slumping in the top of the ditch (1017) which provided in excess of 150 sherds of Roman pottery. Possible bank deposits (1014=1035) were also built up against the northern edge of the ditch and produced a small amount of Roman pottery and occasional animal bone. These contexts (1014, 1017 and 1035) were cut by a small pit (F106), 0.24m deep and filled with dark greyish brown silty sandy clay (1016), which contained an almost complete Tazza. This material had also been cut by a small pit / post-hole (F108), situated to the east of F106. It was only 0.12m deep yet contained a moderate amount of Roman pottery, also tile, iron slag, animal bone and window glass (1018).

The cobble surface (1006) was overlain by a thin light brownish grey layer of sandy clay (1012), which produced a large quantity of Roman pottery, including mortaria.

POST ROMAN

The cobble surface was preserved by a sealing layer of 'dark earth,' (1005) composed of grey silty clay sand with frequent charcoal flecks and small stone inclusions. The layer ranged in depth between 0.25m to the south increasing to 0.56 m towards the northwestern limit of excavation. It was of particular significance in providing a vast assemblage of finds, including 1500 sherds of Roman pottery, tile, nails and animal bones, shell, charcoal and slag. The finds also included Roman coins, bone pins, copper alloy pins and a ceramic counter.

POST MEDIEVAL

Layer 1012 was cut by a circular feature (F103), measuring 1.40m in diameter and entirely filled with orange clay sand (1009). This was excavated to a depth of 1.20m but no datable evidence was discovered, and it seems most likely that this was a well.

The remains of a north-south aligned wall (F101), constructed of large, worked green sandstone blocks, cut the layer of 'dark earth'. This had been reused as part of the foundations for a later 19th century wall (F102, 1008). A large sub-rectangular 19th century domestic and building refuse pit (F105) also cut the 'dark earth'. The fill contained 19th century pottery, glass, tile, clay pipe, shell and animal bone. A layer of building demolition material (1002) measuring between 0.30 and 0.60m in depth, sealed these features.

4.2 Area B, Fig. 7

The natural sand was cut by a series of oval, circular and irregularly shaped pits. At the southern limit of excavation was the northern edge of a large cut (F200). This measured in excess of 1m in depth and the fill (2004) produced Roman pottery, including samian ware and mortaria. Also recovered, were fragments of tile, animal bone, iron slag, nails and a silver coin which suggests this feature was formerly used for rubbish. A group of Roman pits (F202, F203, F204, F205 and F208) and two east-west aligned linear features (F201 and F207) were excavated to the north of F200. Pits F200 and F205 had been cut by an oval shaped pit (F204). These pits were typically filled with medium grey-brown silty sand and contained Roman pottery, iron slag and animal bone. The pits ranged in size from 0.65-2.05m in diameter and generally 0.40m in depth. An irregularly shaped pit (F203) had been cut by a possible large, irregularly shaped pit (F202) which in turn was cut by an east-west aligned butt ending linear gully (F201). A second gully (F207) with gradually sloping sides and a slightly rounded base was recorded to the north of F201. This feature produced Roman pottery, iron slag, animal bone and a very well preserved Trajan coin (*Dupondius*).

POST MEDIEVAL

The post-medieval activity appeared to be confined to the northern and eastern limits of Area E. A series of sub-circular shaped cuts (F206, F209 and F211, F212, F213 and F219) related to a period of extensive building activity. Pit F206 was the base of a pad for a brick pillar. The grey silty sand fill (2010) was typical of these features, which contained post-medieval pottery, brick, mortar and iron bolts.

Pits F210 was cut with a steeply sloping southern edge of and measured in excess of 2.40m in diameter and 1.00m in depth and may be part of the same feature as F219. Later pits (F214, F216, F217 and F218) cut Pit F219. Pit F218 produced artefacts with a wide date range, from Roman pottery through to Post-Medieval clay pipe, iron nails and glass (2022). The latest features were brick walls (F220 and F221) forming the foundations of a small building. This was in turn overlain by layers of hardcore (2002) and concrete (2001), which provided the platform for the tarmac surface of the car park (2000).

4.3 Area D, Fig. 8

ROMAN FEATURES

The natural sand (3000) was overlain by a layer of cobbles (3001), possibly a Roman surface (F300). This measured approximately 3.4m across and was on a roughly east-west alignment. The surface was 0.25m in depth and extended beyond the eastern and western limits of the area. Excavation of this produced Roman pottery sherds, pieces of tile, animal bone, iron slag and nails. F300 was cut by a small circular pit (F302), measuring 0.20m in diameter and 0.25m deep but devoid of finds.

Located towards the southern edge of the area was a Roman pit (F305), the base of which was uncovered at a depth of 16.76m AOD. The western half of F305 was excavated, indicating a diameter of approximately 1.20m, with steeply sloping sides and a flattish base. The greyish brown silty sand fill (3006) produced four pieces of tegula and also

sherds of Roman pottery and iron slag. The pit had been truncated by what appeared to be an east-west aligned ditch (F304). The ditch measured in excess of 3.40m approximately in width, and the northern edge sloped sharply to a rounded base. The lower fill was mid-dark brown sandy silt (3005), overlain by a distinctive mixed fill (3004). This was comprised of brown sandy silt and greyish green marl with lenses of redeposited orange sand. A large assemblage of finds comprised samian ware, mortaria, brick (notably tegula), iron slag, animal bone, glass and daub.

POST MEDIEVAL

Post-Medieval and modern building activity consisted of brick footings (F301) and a concrete post (F307), uncovered along the northern edge of the area and the cut for a fuel tank (F306). These features were overlain by recent building demolition material (3007), measuring between 0.70- 0.80m deep and forming the base for the tarmac car park surface (3008).

4.4 Area E, Fig. 9

ROMAN FEATURES

The only evidence for the survival of Roman remains was at the northern extent of Area E, where several pits (F400, F402, F403, F411 and F412) were cut into the natural orange sand (4004). Some of these were fairly small (F402, F403, F411 and F412), measuring between 0.35 and 0.60m in diameter and 0.35m in depth. The pits were all filled with a similar grey silty sand, containing iron slag, and in the case of F402 (4007) and F403 (4009), Roman pottery

A large sub circular pit (F400) with fairly steep sides and a flat base, survived to a depth of 1.45m. This contained a lower fill of orange-brown sand (4033), overlain by grey silty clay sand (4008), which produced a moderate amount of iron slag, Roman pottery, also animal bone and tile. The upper fill (grey silty clay sand, 4005), contained amphora and samian ware, iron slag and a fragment of worked bone. The sheer size of the pit, measuring approximately 6.50m across, suggests that it may have been a quarry pit, subsequently perhaps, used as a waste disposal pit.

The eastern edge of F400 and the smaller pits (F402, F403, F411 and F412) were cut by a second large pit (F420), which extended beyond the northern and eastern edges of excavation. Measuring 1.45m deep, the fill (4032) produced Roman pottery, iron slag and animal bone.

To the west of F400 was a sub-circular pit or more likely the terminal of a ditch (F405) measuring 0.50m in depth. This was filled with stony light brown silty clay sand (4027), overlain by dark brown silty sandy clay (4013). Both the upper and lower fills contained a high quantity of Roman pottery sherds, including an almost complete Malvernian ware vessel. The assemblage also comprised the majority of a large rusticated pot, amphora and the base of a samian vessel with a makers stamp.

This was truncated to the west by a deep rubbish pit (F404). The pit was excavated to a depth of 1.50m, with the middle and upper fills (4015 and 4012 respectively) containing iron slag, well preserved animal bone and Roman pottery.

POST MEDIEVAL

Across the central part of the area, approximately 1m of levelling layers (4001-4003) overlay the natural sand (4004). The earliest (4003) was a mid greyish brown silty clay sand with charcoal flecking. This increased from 0.25-0.45m to the south and produced Roman and post-medieval pottery, iron slag, tile clay pipe, glass and animal bone. A layer of post-medieval building rubble (4002) measuring 0.18m in depth sealed this. At the southern extent of the Area E Layer 4003 had been cut by an east-west aligned ditch (F418). This had a steep profile, and had been recut to the south by a second ditch (F417). Although the profile suggested that these were part of a substantial defensive system it was not possible to excavate the southern extent of the ditches. F417 was filled with very dark grey clay sand (4028) and contained both Roman and post-medieval pottery, tile and animal bone. The ditch measured in excess of 5.40m wide, extending beyond the southern limit of excavation and was excavated to a depth of 18.22m AOD, at which point flooding prevented further work. An earlier sondage (F406) into the top of the ditch produced a moderate quantity of medieval pottery sherds and tile (4014). A second section (F415/F417), again only partially excavated due to flooding, was cut through the upper fills of the ditch.

Two small Post-Medieval pits (F409 and F416), measuring 0.70 and 0.90m respectively cut Ditch F415. These shallow pits were filled with fragmented building material and measured 0.15m deep. Their fills and depths were consistent with a number of pits (F401, F408 and F410) located in the centre of Area E. At the eastern edge of the area a slightly deeper pit (F414) was recorded, which continued beyond the south eastern limit of the area. This was 0.40m in depth and had been cut by a second pit (F413). These pits and other un-excavated pits had post-medieval pottery visible in the fills, and were cut through Layers 4002 and 4003. Layer 4002 was also cut by a well (F419), which was partially excavated to a depth of 18.61m AOD. A light grey sandy levelling layer (4001) overlay the well and pits. This measured 0.20m deep, was cut by a series of land drains and a number of large concrete slabs and provided the base for the tarmac car park surface (4000).

4.5 The Watching Brief

PLOT 1 AND AREA F, (Figs. 2 and 5)

Across the northern half of the area was a layer of dark silt (5010), defining a strip, approximately 3m wide, which consisted of a heavy concentration of medium sized rounded stones. The east to west orientation suggests that may be related to the Roman track or road/street identified in Area A. Two distinct areas (5008 and 5009) appeared to cut the southern edge of Layer 5010 and may represent patching and repairs.

To the south were several possible postholes (5002, 5003, 5004, 5005, 5006 and 5007). All of these, except 5003, were filled with brown sandy silt with charcoal flecking. Deposit 5003, however, was characterised by a large amount of broken and burnt stone.

This may have resulted from deliberate back-filling but may also suggest industrial activity nearby. The postholes/pits and the cobble surface could indicate the presence of a structure on the Roman street frontage. The recovery of iron nails and slag would also point to industrial activity in this area. In the southern half of Area F was a possible pit (5001), fairly large and circular in plan. Small sherds of Roman pottery were visible in the upper fills of these pits.

In the southwestern corner of Area F a large cut (F500) was partially exposed in plan. This contained very dark clay sandy silt (5000) which included large lumps of charcoal and a substantial amount of broken post-medieval tile. The pit was edged with a band of orange sandy clay (5012).

PLOT 2 (Fig. 2)

The foundations for Plot 2 were located along the eastern edge of the site and were excavated to a depth of approximately 0.6m. A north-south aligned linear feature (F600, not illustrated) was observed in section only. It contained loose, very dark brown to black sandy silt (6000) which produced two small sherds of Roman pottery along with some 18th brown glaze ware. Two large pits (F601 and F602, not illustrated) were also observed in the western facing section of the foundation trench. Pits F601 and F602 were both U shaped in profile and contained very similar fills. The largest (F601) measured approximately 5m in width by 1.5m in depth and produced Roman pottery mixed with 18th and 19th century sherds (6001). The other pit (F602) was only partially exposed in section and measured 3m by 1.5m. The fill (6002) produces a clay pipe stem. A layer of rubble (6003) sealed these features. These features are fairly typical, and consistent with the pits and ditches which were uncovered during the excavation of Area E.

PLOT 3 (Fig. 2)

Several pits (F703, F704, F705 and F706) with U-shaped profiles, and a gully (F702) were observed along the western edge of Plot 3. The gully was aligned northwest to southeast and was filled with dark brown loose sandy silt (7003) which produced slag and charcoal. Pit F703 was U filled with light grey/brown silty sand and pebbles (7011). Pit F703 was cut by a second pit (F704) which contained light grey sandy silt (7012). This was in turn cut by a third pit (F705), which was slightly more irregular with a wide flat base. Pit F705 was also filled with light grey/brown sandy silt (7013). Immediately to the south of these pits was another pit (F706) with a lower fill (7014) of loose, light to mid brown sand silt, overlain by an upper fill (7015) which was a compact grey brown silty sand.

The pits and gully are probably associated with the Roman pits and ditches excavated in Area B. All these features were sealed by approximately 1m of compact grey/brown sandy silt (7010) containing brick, tile and late post-medieval pottery, which may be a post-medieval levelling layer.

The area between excavation Areas B and D contained a deep layer of rubble and demolition debris with large quantities of late post medieval material, such as clay pipe

stems and pottery. This rubble probably resulted from demolition of a building. No archaeological deposits were observed in this area.

PLOT 4 (Fig. 2)

The earliest deposit in Plot 4 was very dark brown silt (8002) with a high concentration of pebbles. Two pits (F800 and F801 observed in section only) cut this layer. The earliest of these (F801) was U-shaped in profile and filled by dark brown silt with pebbles (8001). This was cut on its northern edge by a larger pit (F800), which had a rounded profile and was filled with mid brown sandy silt and re-deposited natural (8000). Pit F800 was sealed by a layer of dark brown silt (8003) which in turn, had been sealed by medium brown sandy silt (8004).

The remainder of Plot 4 consisted of layers of demolition and building debris, which directly overlay the natural subsoil.

The watching brief confirmed that layers of post-medieval building rubble largely occupied this area. The features observed in the west facing section indicate that small islands of archaeology may survive in this area.

PLOT 5 (Fig. 2).

On the western edge of Plot 5 an intact sandstone well (F901) of Roman date was uncovered. A sub-oval cut (F900) for the well was observed in plan only and measured approximately 4.6m across. This was filled with brown/orange silty sand (9000) with pebbles, charcoal flecking, from which a few sherds of Roman pottery were recovered.

The well measured 1.2m in diameter and approximately 6.5m in depth, and was lined with squared red sandstone blocks measuring up to 0.3m x 0.3m. Tool marks were identified on some of the blocks in upper 3 courses, but no evidence for mortaring was observed. A core sample from the well showed at the base the first 2m consisted of black, waterlogged deposits. This was sealed by 4.5m of loose dark brown silt (9002) which contained Roman pottery, animal bone and slag (the well was not excavated below 1m). The upper fill (9002) probably represents a single episode of back-filling once the well was abandoned.

The well was sealed by orange/brown silty sand (9004) which was overlain by mid brown sandy silt (9005) containing brick fragments. Layer 9005 was cut by a post-medieval pit (F903) which was filled with sandy silt (9003) containing fragments of sandstone. The complete absence of other associated archaeological features in this area is likely to be due to later building activity. It is probably safe to assume that features associated with the well once existed in the vicinity.

4.6 The Trial Trenching Results

TRENCH 1 (Figs. 2 and 6)

The earliest features identified in this trench were Roman in date and were cut into the natural sand-gravel (1030). These include several pits all with steep sides and a flat base, but severely truncated by later features or levelling layers.

F100E was a square-shaped pit surviving to a depth of 0.3m at the western extent of the trench. The lower fill consisted of orange/brown silt-sand (1006). The upper fill, a brown silt-sand (1003E), contained 3rd-4th century sherds. Pit (F105E), only survived to a depth of 0.15m and was filled with orange/brown silt-clay-sand (1014E). To the north of this, Pit F107E was cut to a depth of 0.1m and filled by dark grey silt-clay-sand (1016E). This was cut by Pit F108E, which was filled with a 0.2-0.3m thick deposit of light brown silt-clay-sand (1017E) and contained a post-medieval brick fragment. A Roman coin of 346-50AD was later retrieved from this during environmental processing. Pit F108E was further cut by F106E, which was filled by a dark brown silt-clay-sand (1015E) 0.3m in depth. This contained pottery of 3rd-4th century date.

At the southern edge of Trench 1 were the remains of a possible ditch (F104E), 2.5m in width. This was shallow with a U-shaped profile with an almost flat base. The lower fill consisted of dark grey/brown silt-sand clay (1005E), 0.35m in depth, and produced a 4th century penannular brooch. Other finds included 3rd-4th century pottery sherds, iron-working waste ('slag'), animal bone, and building material, including stone and ceramic tile. This was sealed by a grey/brown silt-sand-clay deposit (1004E) which contained 'tiles' in a distinctive Malvernian fabric and sherds of 18th century bottle glass and a single dressmaker's pin, which may be intrusive.

The Roman features had all been heavily truncated by a series of post-medieval levelling layers and pits. F109E was the shallow remains of an irregular pit, below F103E and the later F102E, which were only visible in section. All were filled with a silt-clay-sand containing fragments of post-medieval pottery and cut a brown sand layer (1010E). F102E was truncated by a levelling deposit of dark brown silt-sand (1020E). This layer was beneath two levelling deposits: a silt-sand deposit containing a large percentage of brick rubble (1018E) and a dark grey/brown silt-sand-clay (1002E). A 19th century well (F101E) cut these layers in the eastern end of the trial trench.

TRENCH 2 (Fig. 9)

Two Roman pits (F200E and F202E), and ditch (F201E), were cut into the natural sand-gravel (4004). Pit F202E was cut to a depth of 0.6m, with steep sides and a flat base. It was filled with a dark grey silt-sand (2008E), containing a coin of Tetricus I (270-73), pottery of 2nd century date and large amounts of ironworking slag. To the east, a north-south ditch (F201E) was steep-sided with a flat base, and cut to a depth of 0.70m. This was filled with charcoal-flecked green/grey sand-silt (2005E). This was sealed by a dark brown sand-silt-clay (2004E) containing 2nd century pottery. This is probably the same ditch (F405) as was recorded during the excavation in Area E

At the eastern end of the trench was a possible pit (F200E) with a gently sloping western edge, which shelved down to a flat base. It was filled with a dark brown clay-silt-sand (2003E) and survived to a depth of 0.4m. A small wire ?earring was found in the fill, along with pottery broadly of 2nd century date. It is possible that this feature relates to Pit F420 in Area E.

F200E had been truncated by a deep deposit of grey/black clay-silt-sand (2006E), which appeared to be the edge of a later levelling deposit or possibly a later ditch. It produced a few artefacts, mostly post-medieval in date.

TRENCH 3 (Fig. 7)

The earliest features in Trench 3 were a series of Roman pits and ditches (F301E-5E). Located in the middle of the trench was a pit (F305E) with a shallow, flat profile filled with a dark grey silt-sand (3007E). This was cut by a second pit (F304E), which had a V-shaped profile, filled with a dark grey silt-sand (3006E). This contained 2nd to 3rd century pottery. F303E was an irregular shaped, round bottomed pit, 0.20m in depth and filled with a dark brown clay-silt-sand (3005E). F301E could have been the remains of a rounded ditch terminal or an irregular pit filled by a dark grey, silt-sand (3002E). F302E also appeared to be the remains of a heavily truncated, U-shaped ditch containing a dark grey silt-sand (3003E) upper fill and a lower fill of grey/brown sand (3004E). Sherds of 2nd century date or later were found in this fill.

F301 had been cut by a bowl-shaped pit (F300), which contained a number of brick fragments of possible 18th century origin. These features were truncated and sealed by a layer of a dark grey clay-silt-sand (3009), 1.1m in depth.

TRENCH 4 (Fig 4)

A layer of brown silt and pebbles (4007) was the earliest deposit encountered within this trench. This layer was approximately 0.55m deep and overlay the natural sand sub-soil (4002) at the western end of the trench. It contained large quantities of Roman pottery, and was sealed by two layers of levelling deposits: an orange sand and mortar layer (4001) and a brown silt with occasional brick and charcoal fragments (4006). The total depth of overburden at the western end of the trench was 1.1m.

In the eastern end of the trench the natural sub-soil (4002) was encountered beneath 1.75m of overburden. Cutting the sub-soil at this depth was a curvilinear feature (F404), the fill of which was a dark brown silt and rubble mix (4009) that contained brick, tile, glass, and modern pottery. The remainder of the trench was characterised by walls and cuts likely to be 18th century or later in date.

5.0 THE FINDS

5.1 The Roman Ceramics *by C Jane Evans*

METHODOLOGY

A total of 3453 sherds of Roman pottery was recovered, as summarised below. All the pottery from the site will be published, so a detailed MAP II style assessment was not undertaken. It was, however, necessary to scan through the pottery, in order to comment on the overall character of the assemblage, and produce a costing for post excavation analysis. The results of this rapid assessment are presented below.

Table 1: Summary of the pottery by area (Derived from Assemblage Summary database)

Area	Qty.	% Qty	Wt. (g)	% Wt.	Average sherd Wt.
A	2112	61	34745	58	16
B	361	10.5	3078	5	8.5
D	263	8	4190	7	16
E	629	18	16000	27	25
U/S	88	2.5	1604	3	18
Total	3453		59617		

Table 2: Summary of pottery by class

Pottery class	Qty.
Coarsewares	3351
Samian	52
Mortaria	38
Amphora	12

AREA A

Area A produced by far the largest assemblage of Roman Pottery from the site (61% by sherd count, 58% by weight). This group is of high significance in the context of Roman Worcester. Interpretation of Roman assemblages from Worcester is often clouded by the presence of residual material, accruing from the first through the second and third centuries; a common problem on urban sites. This has made it difficult to characterise 'typical' assemblages of any one period. Worcester has also, until recently, provided little evidence for the latest Roman activity, with many sites appearing to have been abandoned some time during the late third or early fourth century (Darlington and Evans 1992, 32; Bryant and Evans 2001; Dalwood et al. 1994, 97; Edwards et al. 2002, 124).

This assemblage is therefore important for two reasons:

- It includes a substantial body of late Roman material (1005), comparable to the important assemblage recently excavated at 1 The Butts (Evans 2004).
- This late deposit seals a very well preserved cobble surface from earlier phases.

The assemblage from the 'dark earth' deposit includes typically fourth century fabrics and forms: a range of Oxfordshire products in red slipped and parchment ware, late Black burnished ware forms, and late Severn valley ware forms. Of particular note is the presence of late Roman shell tempered ware (Worcestershire fabric 23). This has occasionally been found elsewhere in Worcester, in dark earth deposits dating to the late-fourth to fifth century (Bryant and Evans 2001) and was noted in the late Roman assemblage from Castle Street (Dalwood et al 1997, Fig. 2). It has recently been recovered in excavations close to this site, amongst material dumped into a Roman well at 1 The Butts (Evans 2004). The pottery from the 'dark earth' (1005), like the material from 1 the Butts, is well preserved: some sizeable fragments are included (average sherd weight 14g), a number of cross-joins are apparent, and evidence of use (sooting and

limescale) survives on some sherds. From the initial scan, this does not look like material that is integral to the dark earth, which would normally be fragmentary and abraded having been churned around in the agricultural soil. It looks more like material that has been deposited in the dark earth in a phase of dumping, which would be consistent with the evidence from 1 The Butts (Napthan 2004). This is something that could be explored during more detailed analysis.

The material from earlier deposits is consistent with a late 1st to early 2nd century date. Characteristic fabrics and forms include Malvernian tubby cooking pots, Severn valley ware jars and tankards (including examples in the early Roman organic tempered fabric), a *tazza* in Severn valley ware, and grey ware rusticated jars. The samian and mortaria should provide important dating evidence for this group. There is very little BB1, which becomes common from c AD 120 on. There is no obviously later 2nd or 3rd century material present. Very little of this earlier material was included in the later deposits.

AREA B

Area B produced a smaller and more fragmentary assemblage (average sherds weight 8.5g). Once again the pottery included 1st-2nd century fabrics and forms, and some late 3rd to 4th century material.

AREA D

Area D produced another smaller assemblage, though the pottery was generally less fragmentary (average sherd weight 16g) and included a number of diagnostic forms. The assemblage was broadly 2nd century in date, although some later Roman material was also included.

AREA E

Area E produced a slightly larger assemblage, including a number of joining sherds, particularly from Pit F405 (4027, 4013). This group had the highest average sherd weight (25g). It was a typically 2nd century assemblage, with complete profiles from a couple of rusticated jars, a near complete Malvernian tubby cooking pot, some well dated BB1 forms, and a range of Severn Valley ware jars, bowls and tankards. Late 3rd to 4th century forms came from some of the pits (F400, 4005; F404, 4015) and a levelling layer (4003).

DISCUSSION

The assemblage contains two distinct chronological groups. There is little diagnostically late 2nd or 3rd century material, suggesting that any major activity on the site ceased during this period. It will be interesting to see if the other datable finds, e.g. samian and coins, support this theory. The late Roman assemblage is of particular importance, for reasons expanded upon elsewhere (Evans 2004). Ideally, and if at all possible, this material should be published along side the other recently excavated assemblages from The Butts, in particular from 1 The Butts, and the unpublished late Roman material from Castle Street (Dalwood 1997).

5.2 The Roman ceramics from the evaluation, by C Jane Evans

The evaluation produced a total of 323 sherds of Roman pottery. The majority came from Trench 1, more than a quarter coming from one feature (F104E). The assemblage overall spanned a period from the 1st to early 2nd century right through to the late 3rd to 4th century. The condition of the pottery was variable but generally indicated well-preserved and significant archaeological deposits.

Table 3: Summary of Roman pottery by Trench/Feature/Context

Trench	Feature	Context	Sherd count	% by Trench
1	Layer	1002E	21	6.5
	F100E	1003E	3	<1
	F104E	1004E	44	14
		1005E	50	15.5
	F106E	1015E	4	1
	F108E	1017E	3	<1
<i>Total</i>			125	39
2	F200E	2003E	9	3
	F201E	2004E	33	10
		Upper layer	2	<1
	F202E	2008E	32	10
<i>Total</i>			76	24
3	F301E	3002E	1	<1
	F302E	3003E	3	<1
	F304E	3005E	9	3
	Layer	3007E	40	12
<i>Total</i>			53	16
4	Layer	4009E	69	21
<i>Total</i>			69	21
Total			323	

Survival of pottery in Trench 1 (Figs. 2 and 6) was good, particularly in the truncated ditch at the southern edge of the trench (F104E). This produced substantial, well-preserved sherds, including a number of diagnostic forms. The pottery indicated a broad date some time in the late 3rd to 4th century for the in-filling of the ditch, which was supported by the presence of a 4th century brooch. Forms in BB1 included conical bowls with dropped-flange rims (Seager Smith and Davies 1993, type 25), cook pots with markedly splayed rims (ibid. type 3) and obtuse cross-hatch burnish, a fish dish (ibid. type 21), and less diagnostic plain-rimmed dishes (ibid. type 20). Other diagnostically late-Roman types included Severn-Valley-ware jars (Webster 1976, fig. 6.31), an Oxfordshire-parchment-ware carinated bowl, one of the most popular forms in this ware (Young 1977), and sherds of Oxfordshire red colour-coated mortaria. A terminus ante quem in the late 4th century is, perhaps, indicated by the absence of late-Roman shelly wares, found in dark earth deposits elsewhere in Worcester where they were dated to the

late 4th to 5th century (Buteux 1997). Occasional sherds of residual pottery were noted, including samian. Layer 1002E, the upper fill of pit F100E (1003E) and the fill of pit F108 (1017E) all produced smaller, less diagnostic groups, but could all be dated to the late 3rd to 4th century. Pit F106E, however, produced only body sherds of undiagnostic, Severn Valley ware

The pottery from Trench 2 (Figs. 2 and 9) indicated earlier-Roman activity on this part of the site. The pottery groups were smaller and less well preserved than those from Trench 1, but there were enough diagnostic sherds to suggest a broadly 2nd century date. Diagnostic types included sherds of organic-tempered Severn Valley ware, reduced Severn Valley ware, white colour-coated ware, and Mancetter-Hartshill mortaria with the mixed trituration grits of earlier vessels. All but ditch F200E produced BB1, indicating a *terminus post quem* of c AD 120. Pit F202E, however, also produced a coin dated AD 270+, suggesting that the pottery here at least could be residual. This pit also produced some unusual Malvernian tile.

The date of activity associated with Trench 3 (Figs. 2 and 7) was hardest to define. Few diagnostic sherds were included, most of the pottery comprising body sherds in Severn Valley ware. One of the pits (F305E) produced a hooked-rim jar and a flange-rimmed bowl, both broadly 2nd to 3rd century types. This feature and pit F303E also produced Malvernian copies of BB1 plain-rimmed dishes, a type produced from the 2nd century on. Only levelling layer 3009E produced BB1, two undecorated body sherds from a cook pot, and a single sherd of samian.

The assemblage from the earliest deposit in Trench 4 (4007E, Fig. 2) was particularly interesting, providing further evidence for early Roman activity in Worcester. This, like Trench 1, produced substantial, unabraded sherds, many of which were from chronologically-diagnostic forms. Most sherds were datable to the 1st or early 2nd century, although some slightly later material was also present. Severn Valley ware was the most common fabric, usually with the characteristically early organic temper. Forms included an upright-walled tankard (Webster 1976, fig. 7.38), narrow and wide-mouthed jars (*ibid.* fig.1.3, fig. 4.20), and more unusual forms such as a bead-rimmed dish and a carinated bowl with a flaring rim. One of the narrow-mouthed jars had a *graffito* on the rim. This seems increasingly to be a characteristic of these 1st to 2nd century jars. A number of parallels is published from Alcester (Evans, Lee and Lindquist 1994, 124-130) and other examples are known from *Ariconium* (Willis forthcoming) and Wroxeter (Evans 2000). The latest form was a mid-2nd to late-3rd century type (*ibid.* fig. 5.23) which was not in the organic-tempered fabric. Forms in reduced Severn Valley ware included a jar with linear rustication and a flask, again consistent with a 1st to early 2nd century date. Other fabrics included handmade Malvernian ware, represented by a very large storage jar (Peacock 1967, fig. 4.80) and a lid, and BB1, represented by a jar with a short, slightly-everted rim. The presence of BB1 is generally assumed to indicate a *terminus post quem* of c. AD 120. However, small quantities were reaching this area earlier than this, and the form represented is most commonly found in contexts dated AD 75-120 at Dorchester, Greyhound Yard (Seager Smith and Davies 1993, fig. 122, type 1). A single sherd of

Dressel 20 amphorae was recovered, but no samian. The latter may not be significant, however, as such a small sample of the archaeology was investigated.

5.3 The small finds by Isabel Nogueira

COINS

A total of 23 coins were recovered, twelve of which were identifiable. Eight were Roman in date, five came from Area A. These five coins were issued by Constantine I, except for one which was issued by his son Constans I. Area B produced a coin from Trajan and another from Septimius Severus. Area E produced a coin from Septimius Severus, a medieval jetton, and a Georgian ½ penny.

Two of the coins were recovered from the evaluation in 2000. The coins are common site finds and typical of what would be expected from a Romano-British site occupied in the latter half of the Roman period. Beyond offering a general date, and in one case a *terminus post quem* for the feature in which it was found, they offer no particular insight into the economy of the site.

The coins are catalogued in chronological order as follows: Issuer; denomination; date; reference; mint; description of obverse; description of reverse; weight (g); diameter (mm); wear; find number; context number; area.

Condition of the obverse and reverse is denoted by the following abbreviations:

Uw - unworn, sw - slightly worn, w - worn, vw - very worn, ew - extremely worn and C - corroded.

TRAJAN; *Dupondius*; AD 101-2; Robertson 1971, plate 7/231; Rome

Obverse: Head of Trajan, bust radiate right. Slight drapery on left shoulder. IMP NERVA CAE [TRAIA]N [AVG] GERM PM

Reverse: Justitia, draped, seated left on chair with cornucopia in arms, holding sceptre in right hand, left hand on hip, fall of drapery falling over lap. TRPO[T C]OS [.]III[II.P.]
(8g; 26mm; w/w; 38; 2011; B)

SEPTIMIUS SEVERUS OR FAMILY; *Denarius*; AD 193-211

It was not possible to identify this coin. It may have been overstruck, or a copy
(3g; 17mm; vw/vw; 39; 2004; B)

SEPTIMIUS SEVERUS; *Sestertius*; AD 195; Hill 1964, p18/163; unknown mint

Obverse: Head of Septimius Severus, laureate, right. [L. SEPT. SEV. PERT. AVG. IMP. V]

Reverse: Palladium/Minerva standing left holding spear and shield. [P. M. TR. P. III COS. II P. P]
(2g; 17mm; ew/ew; 41; 4014; E)

Tetricus I; *Antoninianus*; (270-73) Mint unknown

Obverse: [IMP CAES TETRIC-]VS[PFAVG] Bust r, wearing radiate crown

Reverse: Obscured by corrosion

Corroded and partly obscured by a concreted stone,
(3g; 21mm; w/c; Die axis unknown; *Evaluation 2000*; F202; Tr 2)

Constantius II; *Follis* (346-350) As Carson & Kent 1133
Obverse: DN CONSTANTIVS PF AVG Mint mark not on flan
Reverse: FELTEMP-REPARATIO Phoenix
(2g; 17mm; w/w; Die axis 6; *Evaluation 2000*; 2; 1017 F108)

CONSTANTINE I; *Follis*; AD 313-317; Robertson 1982, plate 46/97; Arles
Obverse: Bust r. of Constantine I, laureate, draped, cuirassed. IMP CONSTANTINVS P
[F AVG]
Reverse: Sol, radiate, naked except for cloak over left shoulder, standing right, head left,
raising right hand and holding globe in left hand. [SOL] IN[VIC]TO COMITI
(4g; 21mm; vw/w; 35; 1011; A)

CONSTANTINE I; *Follis*; AD 325-330; Robertson 1982; unknown mint;
Obverse: Head of Constantine I, laureate, right. CONS[TANTINVS AVG]
Reverse: A fortified camp-gate, two turrets, star above. [PROVIDENTIAE AVGG]
(3g; 19mm; vw/ew; 13; 1011; A)

CONSTANTINE I; *Follis*; AD 330-335; Robertson 1982, plate 46/92; Lyon, PLG
Obverse: Bust of Constantine I rosette-diademed, draped, cuirassed, right. CONSTANTII
NVS MAX AVG
Reverse: Two soldiers, cloaked, standing facing one another, each holding spear, other
hand on shield. Between them are two standards. GLOR IA EXERC ITVS
(2g; 14mm; w/vw; 27; 1005; A)

CONSTANTINE I; *Follis*; AD 330-35; Sutherland 1974, plate 267/533; Unknown mint
Obverse: bust of Roma, helmeted and draped, facing left; VRBS ROMA
Reverse: too corroded to identify
(1g; 18mm; ew/c; 28; 1005; A)

CONSTANS I; *Follis*; AD 337-340; Robertson 1982, plate 65/6; Trier P
Obverse: Bust of Constans, rosette-diademed, draped, cuirassed, right. [CONSTAN S P F
AVG]
Reverse: Two victories, draped, standing facing one another, each holding wreath and
palm. [VICTORIAE DD AVGGQ NN]
(1g; 13mm; vw/vw; 53; 1005; A)

Jetton

Incomplete and illegible.
Possibly 13th or 14th century
(1g; 26mm; vw/vw; 1; E)

GEORGE III; Half penny; 1807
Obverse: Bust of George III, laureate, right. GEORGIUS III. D: G. REX 1807

Reverse: Britannia sitting on shield, facing left. [BRITANNIA]
(9g; 30mm; vw/c; 30; E)

Token
Contains no inscriptions or designs. Bright green.
(8g; 30mm; 6; 1005; A)

PERSONAL DECORATIVE OBJECTS

(Listed by Fig no.; description; reference; estimated date; find number; context number; area).

Brooches

(Not illustrated) Plate of a copper alloy disk brooch. Circular plate, or disc brooch (Alcester, p168; Crummy 1983, Fig 14). 119mm long, 18mm wide, 7mm strip. 10; 1005; A.

Ring of a Fowler Type C penannular brooch (Crummy 1983, p18). Terminals are coiled and twisted back along the surface of the ring (Fig.10). Circular section. Distorted. Estimated internal diameter 27mm. 2nd/3rd century. 49; 1005; A.

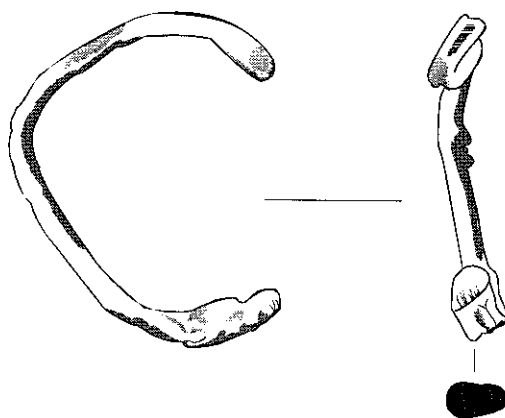


Figure 10: Hoop of a penannular brooch, scale 1:1

(Not illustrated) Fragment of iron bow brooch. The fact that only the main body survives (no wings), and the high corrosion to the object make it very difficult to identify with precision. 15; 1005; A.

(Not illustrated) Penannular brooch. A flat-hooped penannular brooch 42mm in diameter and 2mm thick. The terminals are obscured by corrosion products and there is no sign of the pin. The hoop appears to be plain but any decoration may be hidden beneath surface corrosion. The brooch is of a type similar to the extensive group found at Lydney, Glos (Wheeler and Wheeler 1932). These were all extensively decorated with stamps and engraved lines and similar examples have been found in Anglo-Saxon cemeteries (e.g. White 1988, fig.5). It is likely to be 4th century in date. 1005E; *Evaluation Tr 1*.

Hairpins

(Fig 11e) Bone pin, Type 5a: Pins with 1-5 reels beneath a conical head (Crummy 1983, p23-24). Faceted section. One ring. 36mm long – broken. C. 250 to late 4th/early 5th century. 4; 1005; A.

(Fig 11b) Bone pin, Type 5: Pins with 1-5 reels beneath a conical or ovoid head (Crummy 1983, p23-24). Round section. No head and no tip. Swollen shaft. 71mm long. C. 250 to late 4th/early 5th century. 5; 1005; A.

(Fig 11d) Bone pin, Type 5a: Pins with 1-5 reels beneath a conical head (Crummy 1983, p23-24). Faceted section. Three rings. 15mm long – broken below head. C. 250 to late 4th/early 5th century. 8; 1005; A.

(Fig 11c) Bone pin, Type 5: Pins with 1-5 reels beneath a conical or ovoid head (Crummy 1983, p23-24). Faceted section. Swollen shaft broken just below head. 38mm long. C. 250 to late 4th/early 5th century. 9; 1005; A.

(Fig 11a) Bone pin, Type 5: Pins with 1-5 reels beneath a conical or ovoid head (Crummy 1983, p23-24). Faceted section. Swollen shaft. Only head missing. 63mm long. C. 250 to late 4th/early 5th century. 19; 1005; A.

(Fig 11f) Bone pin, Type 5b: Pins with 1-5 reels beneath an ovoid head (Crummy 1983, p23-24). Faceted section. One ring. 22mm long – broken below head. C. 250 to late 4th/early 5th century. 21; 1005; A.

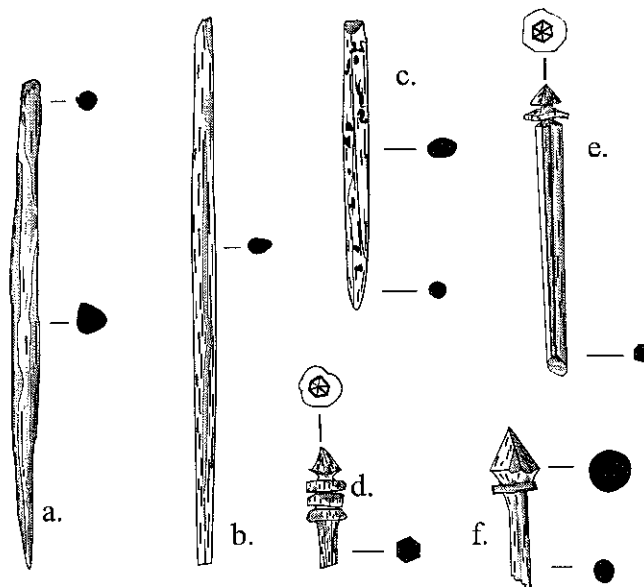


Figure 11: Bone hairpins, scale 1:1

Bracelets

(Fig 12) Bone bracelet (MacGregor 1985, Fig 63c). Undecorated. The ends were fastened together by tapering the ends and then riveting them. Greenish-blue spot where the rivet was. 4.9cm long, 4mm wide and 3mm thick. 4th century. 11; 1005; A.

(Not illustrated) Copper alloy bracelet fragment. Group 6 (Crummy 1983, p37-45). Diagonal grooves, meant to imitate cable twisting style (Webster 2000, Fig 4.8/47, p111). 3rd century. 48; 1005; A.

(Not illustrated) Plain fragment of a shale bracelet (Woodward and Leach 1993, Fig 129/13). Round-sectioned. Internal diameter 55mm, 8mm thick. Iron Age to 2nd/3rd centuries. 12; 1005; A.

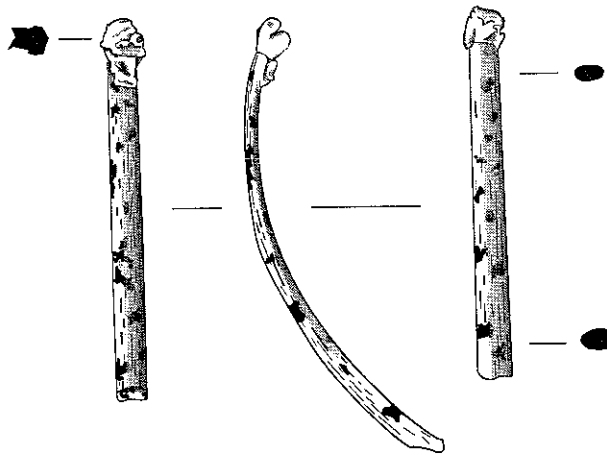


Figure 12: Worked bone bracelet, scale 1:1

Dress pins

(Fig 13a) Copper alloy dress pin (Barker et al 1997, Fig 296/1-2, p194). Wound-wire head. 53 mm long, head is 3 mm, shaft 1.5 mm. 4th century onwards. 47; 1002; A.

(Fig 13b) Copper alloy pin (Neal et al 1990, Fig 130/347, p137). 22 mm long, 2 mm wide for head, 1 mm wide for shaft. Medieval or post-medieval. 51; 4026; E.

(Fig 13c) Copper alloy pin (Neal et al 1990, Fig 130/347, p137). 26 mm long, 2 mm wide for head, 1 mm wide for shaft. Medieval or post-medieval. 52; 4026; E.

(Not illustrated) A copper alloy (brass?) dress-maker's pin 33mm long with a simple domed head. Modern-looking artefact that was perhaps intrusive. 1005E; *Evaluation Tr. 1*.

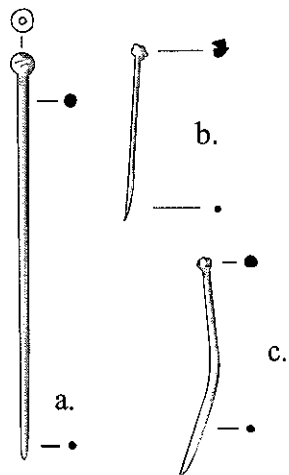


Figure 13: Copper alloy dress pins, scale 1:1

Earrings

(Not illustrated) A hoop of thin copper alloy wire 25mm in diameter and 1mm thick. Possibly a simple earring. 2003E; *Evaluation Tr. 2.*

TOILET IMPLEMENTS

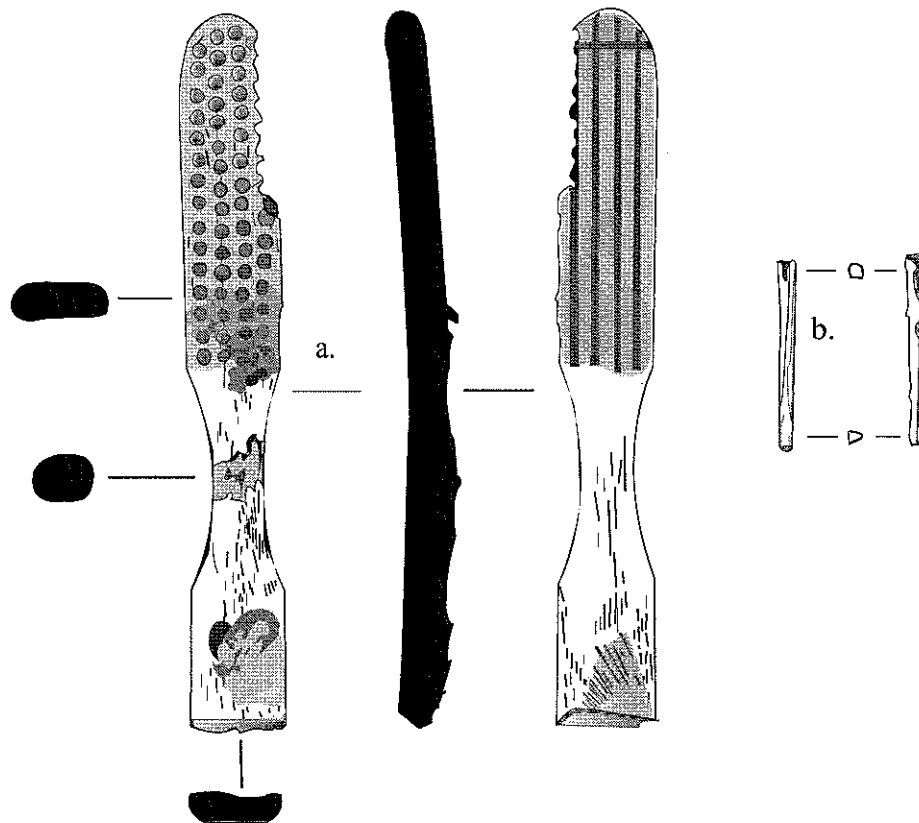


Figure 14: Toilet Implements, scale 1:1

Brushes

(Fig 14a) Bone compound brush (MacGregor 1985, Fig 99). Blue/green stains both in the front and the back where the tufts would have been. "Has the characteristic funnel-shaped perforations linked on the back by grooves to accommodate the wires which anchored the tufts" (MacGregor 1985, p183). 9.3cm long. Most are dated to the 17th century or later. 56; 2013; B.

(Fig 14b) Copper alloy lace chape, (Egan & Pritchard 1991 *Dress Accessories* p.281-90). 24mm long. Medieval or Post-Medieval. 42; 4014; E.

DOMESTIC UTENSILS AND FURNITURE

Vessels

(Not illustrated) Base fragments of a copper alloy vessel such as an ampulla or jug (Manning 1985, Plate 50/P32, p104). Possibly a simple lid (Webster 2000, p120). Two fragments, approximately 8cm and 5cm in diameter, 5g and 4g in weight respectively. Both 38mm long. 4th century. 18; E.

(Fig 15a and b) Base fragments of a copper alloy vessel such as an ampulla or jug (Manning 1985, Plate 50/P32, p104). Possibly a simple lid (Webster 2000, p120). Three fragments, two of which are too small to establish the diameter. 5cm diameter for largest. 9g; 1g; 1g. 30mm. 4th century. 46; 1005; A.

(Not illustrated) Convex colourless glass cup with straight or curved rim (Price and Cottam 1998, Fig 48a, p117-119). Decorated with a "festooned" trail. Usually rim diameters for this type of vessel are approximately 70 to 90mm, and the height can vary from 65 to 80mm. This fragment is 27mm long. Very common vessel during the late 3rd century to late 4th century. 24; 1005; A.

(Not illustrated) Convex colourless glass cup with straight or curved rim (Price and Cottam 1998, Fig 48a, p117-119). Decorated with a "festooned" trail. 25mm long. Late 3rd century to late 4th century. 54; 1005; A.

Furniture

(Fig 15d) Copper alloy decorative strip or appliqué (Cracknell and Mahany 1994, Fig 91/191). 39mm long. 4th century. 22; 1005; A.

Needles

(Fig 15e) Circular sectioned bone pin or needle point (Bishop 1996, Fig14/134, p27). 29mm long; 2mm thick at top, tapering to 1mm at bottom. Common throughout the Roman period. 20a; 1005; A.

(Fig 15f) Circular sectioned bone pin or needle point (Bishop 1996, Fig14/134, p27). 24mm long; 2mm thick at top, tapering to 1mm at bottom. Has some blue/green discoloration. Common throughout the Roman period. 32; 1005; A.

(Fig 17g) Copper alloy needle (Bishop 1996, Fig15/148, p28). Round sectioned. 32mm long, 2mm thick. Medieval or post-medieval. 43; 4014; E.

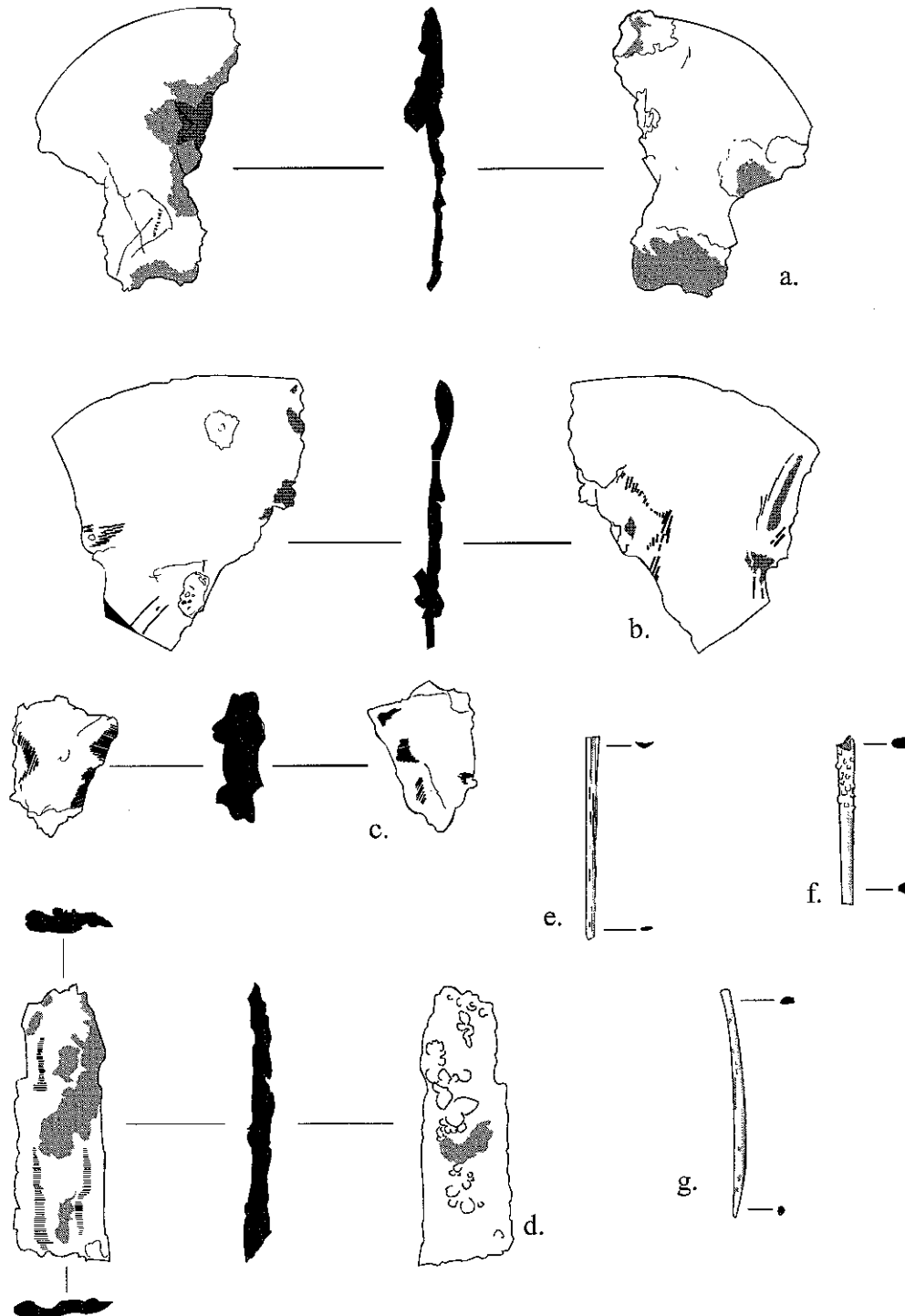


Figure 15: Domestic utensils, scale 1:1

RECREATIONAL OBJECTS

Game counters

(Not illustrated) Baked clay circular counter, probably trimmed from a sherd of oxidized Severn Valley ware (Woodward and Leach 1993, Fig 136/5-6). 14mm diameter. Used throughout the Roman period. 55; 1005; A.

WRITING EQUIPMENT

'Pens'

(Fig 16a) 'Pen' made from bird fibulae (MacGregor et al 1999, Fig 932/7976 and 8059). Possibly a 'parchment pricker'. 44mm long, broken. Medieval. 20e; 1005; A.

(Fig 16b) 'Pen' made from bird fibulae (MacGregor et al 1999, Fig 932/7976 and 8059). Possibly a 'parchment pricker'. 26mm long, worked end missing. Medieval. 20d; 1005; A.

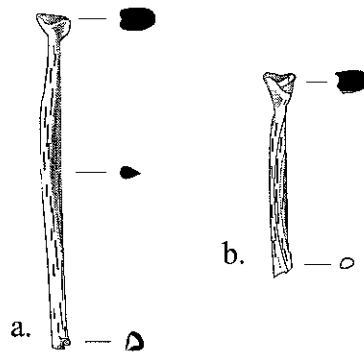


Figure 16: 'Pens', scale 1:1

KEYS

(Fig 17a) Small copper alloy barb-spring padlock key (Webster 2000, Fig 4.19/205; Manning 1985, Plate 43/O71). Scrolled loop terminal and strap handle. The bit is missing. Late Iron Age to the 2nd/3rd century. 29; 1005; A.

(Fig 17b) Small copper alloy lift-key (Manning 1985, Plate 40/O28). Round-sectioned with a rolled head. Since the bit is missing, it is impossible to determine whether the key was L- or T-shaped. 24mm long. 44; 1011; A.

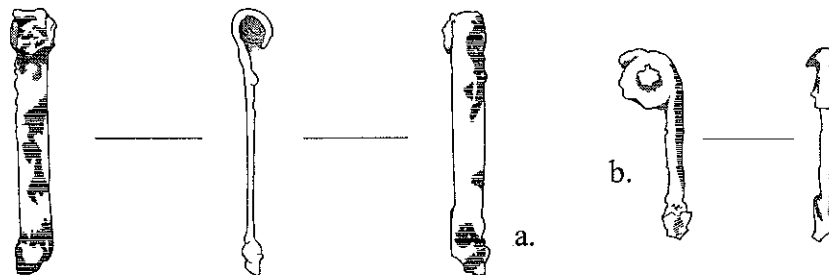


Figure 17: Small copper alloy keys, scale 1:1

UNKNOWN

(Fig 18d) Fragment of worked bone, slightly bowed. 28mm long, 1.5mm wide. 20b; 1005; A.

(Fig 18a) Fragment of worked bone, possibly from a bracelet. Has a type of button on the tip. 33mm long, 3.5mm wide. 20c; 1005; A.

(Fig 18b and c) Two fragments of copper alloy. Very corroded. 12 and 10 mm in length. Approximately 1.5 mm in width. 16; 1011; A.

(Not illustrated) Four very small, unidentifiable fragments of copper alloy, weighing a total of 5g.

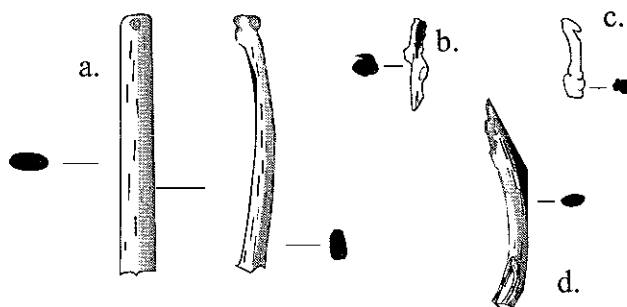


Figure 18: Unknown, scale 1:1

(Not illustrated) A folded square of copper alloy sheet 15 by 11mm in size and 3mm thick. Possibly a strap tag or similar. 1002E; Evaluation Tr. 1.

(Not illustrated) A bent strip of copper alloy 27mm long and 5mm wide. Three deliberate pierced holes are located at the extremities, two at one end and one at the other. Some damage has been caused near these by the tearing off of the strip. A strip-binding perhaps for a leather strap. 3006E; Evaluation Tr. 3.

CONTEXTUALIZATION

Area A

A cobbled surface running east-west (F100, 1006), may represent a Roman street. This was overlain by clay (1011 and 1012), which were in turn sealed by a layer or 'dark earth' (1005). Context 1011 produced Roman pottery, iron slag, tile, mortar, and animal bone. The small finds include a copper alloy key, a copper alloy ring, a cockerel spur, and a bronze *foliis*. This coin belongs to the very common *SOL INVICTO* type, issued between AD 313 and 317 by Constantine I.

The 'dark earth' (1005) varied in depth from 0.25m to 0.56m, and analysis of soil samples from other sites in Worcester, such as at the Farrier Street site (Dalwood et al 1992), has revealed abundant charcoal, iron slag, daub, and animal coprolites. This indicates the presence of household refuse, which was reworked through such processes as agriculture and local fauna, especially earthworms (this volume). This context

produced the greatest amount of finds, including over 2000 sherds of Roman pottery. This pottery assemblage was considered typically fourth century in date due to the late forms of Black burnished ware and red slipped Oxfordshire ware present (Evans, this volume). The small finds from this layer (1005) include copper alloy brooches, a copper alloy key, bone hair pins, fragments of bone and shale bracelets, and four coins issued by the House of Constantine. The coins attributed to Constantine I include the extremely common types *GLORIA EXERCITVS* and *VRBS ROMA*, which were both issued between AD 330 and 335. The only coin attributed to Constans I shows two victories on the reverse, and was issued between AD 337 and 340.

This layer produced all three brooch fragments although the only bow brooch unearthed was too fragmentary to identify a type and date. The ring of the penannular brooch belongs to a Fowler type C, and seems to be early in date due to its simplicity. The design of such simple penannular brooches can be tentatively dated to the second century (Barker et al 1997, p155), although it may have been based on an earlier, pre-conquest model (Crummy 1983, p19). The brooch would appear to be much earlier than the layer from which it came. There are however, two possibilities that may explain the deposition of this object within the dark earth (1005). The first, relates to the fact that brooches seem to have been kept for long periods of time (Cracknell and Mahany 1994). Secondly, it would not be uncommon for an earlier type of brooch to be adapted and enhanced, possibly with decoration (Fowler 1983, p19). Penannular brooches are common to Roman sites in Britain. A further fragment from a plate brooch could not be accurately identified, however it seems clear that plate brooches date mainly to the second century, although the type may have continued into the third century (Barker et al 1997, p155; Cracknell and Mahany 1994, p168).

All six bone hairpins retrieved from the dark earth (1005) ranged in date from the mid 3rd century to the late 4th/early 5th centuries (all Crummy Type 5). The pins attributed to this type have anywhere from one to five reels beneath a conical or ovoid head, and typically have a swollen shaft, which in some cases is faceted in section. This swell can vary from 0.25 to 1.5mm. Crummy (1983, p23-24) has subdivided this into two types according to the shape of the head. Subtype a is conical with grooves which appear to have been cut into the head. With subtype b the head and the reels are treated as two separate motifs, which means the head will be more of an ovoid, or flame-shape resulting from the creation of a slight slope where the head and the first reel meet. Since this subdivision is based on the shape of the head, fragments of bone pins, which comprise only of the shaft cannot be further categorized. This phase is therefore only applicable to half the bone pins studied: two were attributed to subtype a, and the third to subtype b.

Brooches seem to have lost their popularity to bracelets as the main form of personal adornment during the late Roman period (Woodward and Leach 1993). Only one fragment of a copper alloy bracelet was discovered, which was found to belong to Crummy's group 6 (Crummy 1983, p37-45), dating to the third century. Characteristic decoration for this group comprises mainly of diagonal grooves on the outside of the bracelet to imitate the previously popular style of 'cable-twisting' (Webster 2000, p111).

The only fragment of a possible shale fragment retrieved from the site is plain and undecorated, which correlates with other Roman sites in Britain. Previous work on contemporary sites has shown that more than half the bracelets present were plain, as they were during the Iron Age (Lawson 1976, in Woodward and Leach 1993, p166). These were in use from the first century BC to the second/third century AD.

The worked bone bracelet dates to the fourth century, when it was quite common. It is plain and undecorated, and the ends held together by rivets (MacGregor 1985, p112).

The only key from the dark earth (1005) is a small copper alloy barb-spring padlock key. It seems unlikely that a key should be made of copper alloy instead of a stronger material such as iron. However, since the whole lower shaft, including the bit, is missing it is a possibility that only the handle of the key was made of copper alloy. Keys are common finds throughout the Roman period, and are therefore not very helpful in providing dating.

Two 'pen' fragments from Layer 1005 are unlikely to date to the Roman period. These are usually made of goose radii, but can also be made from most bird fibulae, and their use is still not certain. Some have suggested that they may have been used as 'parchment prickers', or as pens used only for drawing simple lines (MacGregor 1985). One of their ends would be obliquely cut and sharpened, but neither of the two examples retrieved have that end present. These probably date to the medieval period and were most likely used by scribes to simplify the task of writing in straight lines (MacGregor 1985, p125).

There are also two needle points which resemble of Crummy's types 1 or 2, both of which were common throughout the Roman period (1983, 65-67; Barker et al 1997, p117). One of the needle points has traces of a blue/green substance, suggesting that it may either have been in contact with metal or that dye may have been used to decorate the surface.

Table 4. Roman glass fragments from Area A, Layer 1005

Vessel Fragments	Yellow-Brown	2
	Colourless/iridescent	15
	<i>Decorated</i>	2
Window Fragments	Colourless	1
Total Glass Fragments		18
Total Weight (in grams)		8
Total Unidentifiable Glass Fragments		16

The only Roman glass fragments recovered were from the dark earth (1005) and a chip of colourless ?vessel glass found in a ditch in Evaluation Tr. 1, F104E (1005E). None can be identified with certainty as there are no rims or bases present. Two body sherds could be tentatively identified from the decoration consisting of a 'festooned' trail'. This type of

vessel was very common in the third and early fourth centuries, although it could date to the late second century (Price and Cottam 1998, p115-117).

The coins from this layer [1005] all belong to common types. Three of the coins are issued by Constantine I, all *follis*. The first was issued between AD 325 and 330 and has a camp-gate on the reverse; the second belongs to the extremely common GLORIA EXERCITVS type, issued between AD 330 and 335 (Robertson 1971, plate 46/92), and the VRBS ROMA type to which the *follis* belongs is also quite common. It was also issued between AD 330 and 335 (Sutherland 1974, plate 267/533). The fourth coin is also a *follis*, this time issued by Constans I between AD 337 and 340, with the reverse showing two victories (Robertson 1982, plate 65/6).

These coins, in combination with the study of the pottery assemblage by Evans (this volume), would suggest the layer dates to the fourth century, in particular the second quarter.

Area B

A silver *denarius* issued by Septimius Severus (AD 193-211) was recovered from a rubbish pit (F200) in the south-west quadrant. Linear gully F207, located in the centre of the western half of Area B, produced a brass *dupondius*. This coin was issued by Trajan between AD 101 and 102 (Robertson 1971, plate 7/231), and evidence from the study of the pottery assemblage from this area suggests a first to second century date.

While the majority of the finds from this area seem to be post-medieval in date, medieval and post medieval rubbish pits F206, F209, F210, and F213, contained some residual Roman material. F209 produced a bone brush, which dates to the 17th century or later (MacGregor 1985, p183). Compound brushes of this type are usually made from the long bones of cattle, although more recent examples were often made of baleen. The tufts could have been made of bristle, but some examples, such as the one from F209, show green stains “from copper salts, indicating that the tufts were of fine wire” (MacGregor 1985, p183). Some of the possible functions for these objects include clothes brushes and toothbrushes, depending on the size.

Area D

No small finds were recovered from Area D.

Area E

Two copper alloy pins were recovered from a small pit (F416), located in the southeast corner and dated to the post-medieval period. Another pit (F406) in the southwest corner dug through ditch F417, produced moderate amounts of medieval pottery and frequent tile fragments, a copper alloy needle, a copper alloy ferrule, and a poorly preserved and incomplete coin issued by Septimius Severus. This coin was issued in AD 195 and shows Minerva/Palladium on the reverse (Hill 1964, p18). Since this context produced mainly medieval pottery sherds and frequent tile fragments, it seems likely that the coin may have been re-deposited or that it relates to the upper fills of the ditch (F417), which pre-dated pits in the south-eastern part of Area E.

The other two coins found in this area are more recent and consist of a medieval jetton and Georgian ½ penny. Reckoning-counters (jettons) are frequently found on the site of old ecclesiastical buildings, and the fact that the Blackfriars Priory, built around 1347, was situated nearby may perhaps explain how the jetton got there. The presence of the Franciscan Priory could also explain this, although it was located much further from the site, almost at the southern most point of the medieval city. Grierson writes that “ordinary jettons were usually sold to the public in bags of fifty or a hundred, since large numbers were needed for all but the simplest calculations and, being of small value, they were easily lost or mislaid” (1975, p163).

5.4 Medieval and Post-Medieval Ceramics by Stephanie Rátkai

SPOT DATING

Table 5. The post medieval pottery spot dates

Context no	Feature no	Spot date
1002		early 19 th c
1005		late 17 th -mid 18 th c
1011		mid 18 th c?
1013	F105	19 th c
2014	F210	late 18 th c
2022	F218	19 th c
3002	F301	late 15 th -mid 16 th c
4003		late 17 th -early/mid 18 th c
4005	F400	later 17 th -18 th c
4006		18 th c?
4014	F406	late 17 th -18 th c
4016	F407	14 th -15 th c
4017	F408	late 17 th -early/mid 18 th c
4025	F415	late 15 th -mid 16 th c
4026	F416	late 17 th -18 th c

DISCUSSION

The small assemblage consisted of 118 sherds, weighing 2855g (together with seven residual Roman sherds weighing 49g). The pottery was divided into medieval fabrics (following Hurst 1992) and post-medieval ware groups. The pottery was quantified by sherd count and weight and by minimum rim count. Vessel form was also recorded where identifiable.

The earliest post-Roman pottery was represented by a Worcester sandy glazed ware jug sherd, Worcester fabric F64.1, dating to the later 12th or first half of the 13th century from dark earth (1005). The remaining medieval pottery consisted almost entirely of Malvernian ware, Worcester fabric F69, which dates to the 14th-16th centuries. There were few Malvernian form sherds. Three bowls were identified from layer (1005), F400 and F406 and a jar with a thumbled neck cordon from F406. Most of the Malvernian sherds were glazed and it is likely that the greater proportion of these came from jugs.

A small number of Cistercian ware cup sherds, dating to the late 15th-16th centuries were present in brick footings F301 and (4025) the fill of ditch F415. In both cases the Cistercian ware sherds were the only ceramics in the contexts. Unfortunately, all the remaining medieval pottery was found residually.

In total there were 37 medieval sherds, weighing 1014g. This is far too small a group to comment on in any detail. However, the most striking feature is how little evidence of post-Roman occupation before the mid 14th century there is. The presence of only one early medieval sherd, a Worcester ware jug sherd, in the dark earth (1005), suggests that the absence of early medieval pottery genuinely reflects the absence of 12th-13th century occupation here and is consistent with garden use proposed by Kenyon (1999). More normal domestic occupation may have begun in the mid 14th or 15th centuries. The presence of Cistercian ware tends to suggest that there was definitely some domestic occupation in the vicinity from the late 15th or 16th centuries.

The absence of yellow ware amongst the post-medieval pottery is strongly suggestive of a second hiatus, although it may reflect clearance and truncation of 17th century levels at the time of the Civil War. There is nothing amongst the post-medieval pottery which need be earlier than the late 17th or early 18th centuries. The period is consistent with the presence of mottled ware, North Devon gravel-tempered ware, slip-coated ware, feathered and trailed slipwares and both the light-bodied and brown-glazed stonewares.

Later 18th century deposits were attested by the presence of creamware, and the sequence continued into the 19th century with industrial slipware, blue transfer-printed sherds sponged ware and utilitarian whiteware etc (these fabrics are recorded as modern glazed wares in Table 6).

The amount of post-medieval pottery is, like the medieval pottery, too small for detailed analysis. One or two sherds however, deserve comment. The mottled ware sherds (with the exception of the sherd from (1005) had iron-rich fabrics which necessitated the use of a white underglaze slip. This makes it very unlikely that they are Staffordshire products as buff firing clays are normally used there. Similar red-bodied mottled wares are known from the Welsh Marches (pers inspection by author) and in the post-medieval period there were clearly areas producing local imitations of the Staffordshire types. A sherd (recorded as mottled coarseware) from (4006) had a coarse, red, thick bodied, 'coarseware fabric' but an internal and partial external white underglaze slip beneath a manganese mottled glaze. Apart from the usual coarseware fabrics there were three sherds from (2022) with a very sandy orange fabric which contained abundant angular quartz c 0.01mm and sparse lumps of coarse red sandstone, up to 3mm. Two body sherds had a glossy internal toffee brown glaze. The third sherd, a bowl rim, was similarly glazed but had two very thin horizontal white slip trails on the interior, just below the rim body junction. It is possible that all three sherds were from the same vessel. The sherds have been recorded as post-medieval orange sandy ware.

Table 6. Quantification by sherd count of pottery by context

	1002	1005	1011	1013	2014	2022	3002	4003	4005	4006	4014	4016	4017	4020	4025	4026	Total
Fabric																	
Blackware		1		4	1	2											8
Cistercian ware							3								3		6
Creamware	8			1	3	3											15
Coarseware	5		3		1			1			4					1	17
Mottled coarseware										1							1
F64.1 Worcester glazed ware		1															1
F69 Malvernian ware		1			1			1	2		22	1		2			30
Mottled ware		1			3	1							1				6
Modern glazed wares	2			14		5											21
North Devon gravel-tempered ware								1									1
Post-medieval orange sandy ware						3											3
Roman oxidised wares									2		5						7
Slip-coated ware			1			1		1									3
Slipware																	1
Feathered slipware				1				1									2
Trailed slipware								1									1
Brown salt-glazed stoneware	1			1													2
Light-bodied stoneware				1	1					1							3
Total	16	4	4	22	10	15	3	5	5	2	31	1	1	2	3	1	125

A single sherd of stratified post-medieval pottery was found during the evaluation (the remainder was in levels immediately beneath the tarmac in unstratified contexts). The sherd was a *sgraffito* slipware plate from Tr. 2, 2006E. A layer of white slip was applied internally over an oxidised body. *Sgraffito* lines were then cut through to create a pattern and then green slip blobs and lines were applied to emphasise the pattern part of which perhaps represented a fish. The finished design was then sealed beneath a clear lead glaze. No parallels have been found but the piece is certainly post-medieval in date and may be an import.

A small number of sherds was found in context 4009E in Trench 4. These included a substantial part of an unglazed red earthenware bowl or dish base, two sherds of black-glazed earthenware, and a small rim sherd of modern glazed earthenware.

5.5 The Brick and Tile by Erica Macey-Bracken

TILE

A total of 672 fragments of tile, weighing 41143g, were recovered from the site. The fragments were generally small and unabraded, and no complete examples were recovered. The tile was quantified by count and weight, and scanned macroscopically for the purposes of assessment.

Most of the tile appeared to be undiagnostic fragments, although seven fragments of *tegula* (3004 x 3, 3006 x 4) and one fragment of *tubulus* (3004) were noted in the initial scan. A more detailed examination of the assemblage may reveal further examples of these and other known Roman tile forms.

Three fragments of stone tile (1005) were also recovered, although these were undiagnostic, and no further work is recommended for these pieces.

Tile was found in Evaluation Trench 1, 2 and 3. The assemblage is summarised in Table 7. Much of it was undiagnostic or was flat tile, but several fabrics were represented, including examples in a Malvernian fabric that, however, did not produce diagnostic forms. The largest fragment, from F202E (2008E), was 110 x 114 x 30mm in size, while another fragment had part of a circular piercing. This tile fabric has been found elsewhere in Worcester (e.g. at Farrier Street) and various uses have been proposed for it, ranging from beehives to ovens (Buteux 1994, 99). A small number of diagnostic tile forms was recognised including classic Roman roof tiles (*tegula* and *imbrex*) but also nibbed forms that may have been *tegulae mammatae*. The remainder were identified as flat tiles that might have come from a number of forms and sizes, ranging from *pedalis* to *sesqipedalis* in size (Brodrigg 1987). A small amount of daub was recognised also but none of this was diagnostic.

Table 7: Summary of Roman tile from the evaluation

Feature	Context	Teg.	Imb.	Flat tile	Daub	Undiag.	Comments
	1002E	1	–	–	–	1	
F100E	1003E	–	–	1 Malv	–	1	
F104E	1004E	2	–	1	–	1	
F104E	1005E	–	–	3 (1 Malv)	1	–	Malv. Tile has circular cut-out
F106E	1015E	–	–	–	–	1	
F108E	1017E	–	–	4	–	–	
	Tr. 2 u/s	–	2	–	–	–	
F200E	2003E	–	–	5 (1 Malv)	–	–	
F201E	2004E	1	–	1	1	2	
	2006E	1	–	–	–	–	
F202E	2008E	–	–	8 (5 Malv)	9	2	Tile with nib; tile with nail hole
F303E	3003E	–	–	–	–	1	
F303E	3005E	–	–	2	–	1	

Recommendations for further work:

The tile assemblage should be examined in detail for the presence of known Roman tile forms. Further examination of the assemblage should also help to identify the range of fabrics present on the site. Once the fabrics have been identified, they can be compared with fabrics present in tile assemblages from other sites in the vicinity of The Butts, which may contribute to a fuller understanding of the types of buildings occupying the area.

BRICK

A total of four small fragments of brick were recovered from the site. One of the fragments (U/S) was from a hand-made brick of probable 18th century date (Dr. Malcolm Hislop, pers. comm.). Another fragment (1005) was very hard-fired, and of probable 19th century date. The other two fragments (1005, 4015) were too small to be of any diagnostic use.

During the evaluation a sample of a large group of hand-made bricks F300E (3001E) was collected. The most complete of these was 118mm wide and 58mm deep and had been heavily over-fired. The remaining fragments were less well fired and varied between 58mm and 47mm in depth. A clay pipe stem demonstrated the late 17th or, more plausibly, 18th century date of these. Other post-medieval brick fragments were found in F108E (1017E) and 4009E. Modern tiles were found in Trench 4 in contexts 4007E and 4009E.

No further work is warranted for the brick assemblage.

5.6 The Glass by Robert Bracken

INTRODUCTION

A total of 58 fragments of 19th century and modern glass, weighing 1310g were recovered from the site. The assemblage was divided into bottle and window glass, and the whole assemblage was very fragmentary - no complete items were noted.

OVERVIEW

One of the most interesting items was a mid-green bottle neck with an applied lip (2010). This item had a cork tie groove moulded below the lip, and is of early 19th century date. As with some of the other fragments in the assemblage, a high degree of iridescence was noted on the item.

A dark green bottle neck with the upper section missing was recovered from 1002. This sherd had a protruding collar, similar to a mid-late 19th century wine bottle.

The most complete bottle was an aqua-green phial (1004 x 9) of late 19th century date. This vessel was very thin-walled and had been hand-blown. The vessel may have been used to hold expensive products such as oil or perfume, as it is much finer than the mass-produced glass that forms the remainder of the assemblage.

Two base sherds from a hexagonally-shaped aqua-blue bottle were recovered from Area E (4003). The shape of this vessel is significant, as it enabled the vessel to be identified as a probable liniment or tonic bottle; these were shaped in this way to aid identification. This vessel was of late 19th or early 20th century date.

Several very crude bottle fragments were noted (1013 x 1, 2014 x 1, 2028 x 4). These sherds had come from black glass bottles, and a varying degree of iridescence was visible, suggesting that the sherds had been discarded and exposed to the elements for some time afterwards. One of the sherds, a base (1013) fragment from a wine bottle, was uneven and scarred on the underside. This fragment is thought to be of early 19th century date, although the other crude sherds were of mid – late 19th century date.

Several other bottle fragments in the assemblage were from wine and beer bottles of late 19th – early 20th century date (2022 x 2, 2028 x 2). Other bottle sherds included a base fragment from a large dark green vessel, probably a storage jar (4003), two small sherds (4003 x 1, 4035 x 1) from round vessels of uncertain function, four sherds from late 20th century green, brown and clear glass bottles (2010 x 3, 2014 x 1, 2028 x 2, 4014 x 1). An aqua-green base sherd from a round bottle was also recovered from the cleaning layer (2028), although the original purpose of this vessel is uncertain.

An undiagnostic fragment of thin, slightly convex, amber glass (3004) was recovered. Unfortunately, the small size of this fragment made identification of the form impossible. Two other undiagnostic fragments – a small piece of heat-distorted glass (1005) and a lump of molten glass (2028) were also noted.

Window glass sherds were recovered from F206 and F209 (2010 x 3, 2013 x 9). These sherds were clear, and of mid-late 20th century appearance. Two sherds of possible late 19th century window glass was also recovered (2014, Trench B), as was a small sherd of late 19th – early 20th century window glass (1018). A possible sherd of stained glass was recovered (1002). This sherd initially appeared to be black, but when held up to the light was a vivid shade of cobalt blue. No definite date for this sherd could be determined.

Bottle glass was recovered from Evaluation Trenches 1, 3 and 4. All appeared to be post-medieval in date. The most diagnostic piece was the neck of a flask in dark green glass from 1002E that was found with two other smaller sherds, one of dark green and one greenish colourless. In the same trench, F104E (1004E) produced two sherds of dark green glass and a tiny piece of dark green glass appearing black. A single sherd in trench 3, from 3009E, was an olive green body fragment. In Trench 4, a thick sherd of green bottle glass with iridescent decay was found in 4007E and six sherds were found in 4009E. These too were post-medieval in date and include a substantial fragment from a bottle neck, four sherds from a bottle with wheel-engraved decoration, and an undecayed sherd of amber coloured vessel glass.

RECOMMENDATIONS

No evidence of deliberate deposition of large quantities of glass bottles was found, and the fragmentary nature of the assemblage suggests that the glass has been deposited as

refuse along with other household waste. As a result of this, and the small size and poor condition of the assemblage, no further work is recommended.

5.7 Assessment of Other Finds by Erica Macey-Bracken

Other finds from the site included iron stone, shell, clay pipe, fired clay, mortar, charcoal, worked bone, flint, a glass bead and a rubber button. As with most of the rest of the finds, these items were fragmentary, although individual pieces were largely unabraded. The finds were quantified by count and weight and scanned macroscopically for the purposes of this report.

IRON

In addition to the iron discussed as part of the Small Finds report (Nogueira, this volume), a quantity of other iron was also recovered from the site. The assemblage was generally very corroded, and many items were difficult to identify. The bulk of the assemblage consisted of iron nails, with a total of 47 nails being recovered. Most of the nails were complete, and it may be possible to compare them with previously published and dated examples. A full listing of the nails by context will also be required.

Other iron items from the site were much harder to identify, due to the presence of corrosion products, which in many cases obscured the original shape of the items. Among the more identifiable items were nine fairly flat pieces of iron (1005 x 4, 1012 x 2, 2014 x 3), which may have come from strips of iron, such as those that were used to bind wooden boxes. One of the pieces (1005) has a right-angled bend, and may have belonged to the corner of such a strip. Further research may confirm this.

A small rivet or stud was also recovered from the site (1011), and may be datable by comparison with published examples. One item of probable modern date was also recovered (1002), this was a T-shaped piece of iron with large bolts at each end, and is probably a stopcock key. The remainder of the assemblage is not readily identifiable and will benefit from x-ray.

During the evaluation two possible iron artefacts, two pieces of iron scale and six nails (Trenches 1-3). These comprised an iron cylindrical bar 97mm long and 28mm in diameter Tr. 1 F104E (1005E), and a thin crumpled amorphous iron sheet Tr. 1 (1002E). No iron objects were found in Trench 4.

WORKED STONE

Twelve fragments of stone were recovered from the site. Nine of these pieces appeared to be fragments of stone tile from building rubble (1005 x 6, 3005 x 2, U/S x 1). Nail holes were noted on three of the tile fragments (1005 x 2, U/S), but no other diagnostic features were noted. Two of the stone fragments (3005) appear to be from a much softer type of stone than that used for the tiles, although it is unclear whether they are worked. The remaining worked stone object was recovered from Tr. 1, 1002E during the evaluation. This was a siltstone pebble 83 x 23 x 13mm in size one face of which had been smoothed by use as a sharpening stone. As an artefact it is undateable.

A group of stone tiles (not included in the assemblage summary above) in red sandstone were also found in Tr. 1, F104E (1005E). The largest of these, which had a partial nail hole, was 1110 x 135 x 23mm.

It will be necessary for a stone specialist to examine the assemblage, to determine the origin of the stones and to attempt to date the material.

SHELL

Six fragments of oyster shell were recovered from the site (1005 x 2, 1013 x 2, 2014 x 2). The shell is unworked, although one piece has a large sub-circular hole in it. It is not possible to say conclusively whether this hole was made deliberately.

No further work is recommended for this material.

FIRED CLAY

The fired clay assemblage consisted of eleven amorphous lumps of fired clay (1005 x 2, 1011 x 1, 1012 x 1, 1015 x 1, 1020 x 2, 3004 x 1, 4013 x 3). Most of the pieces are small and undiagnostic, although two fragments from Area E (4013) are flat on one side, as though they have been part of a surface. Two fragments from Area A (1005) are of a very similar fabric to some of the tile, and may indeed be abraded pieces of tile. Comparison with the tile fabrics when the tile fabrics have been examined may confirm this.

MORTAR

One context (1011) in Area A yielded 15 fragments of mortar. Some of the fragments were very thick, and had one flat side, as if they had been part of a surface. These fragments had traces of whitewash on the flat surface. This suggests that the mortar was used to repair or even up a rough surface, possibly a wall (S. Litherland, pers. comm.). One of the fragments has traces of 18th-19th century brick adhering to it, which adds to the theory that this mortar is from a repair to a damaged wall.

No further work is recommended for this material.

CLAY PIPE

A total of 41 pieces of clay pipe were recovered from the excavation (1002 x 5, 1005 x 1, 1011 x 1, 1013 x 1, 2014 x 6, 2022 x 12, 2026 x 2, 4003 x 5, 4014 x 3, 4016 x 1, 4025 x 2). Most of the pieces recovered were stem fragments, including a mouthpiece (1002), although two bowl fragments were also recovered. The mouthpiece was notable in that it was a pink/brown colour and further research may determine whether this is significant and/or unusual. The most complete bowl fragment (2014) is of possible mid – late 17th century date (Ayto, 1999, 8:5) and has a very faint roulette pattern at the top of the bowl. The other bowl fragment is too small to be of any diagnostic use.

Only stem fragments were recovered during the evaluation, however these were found in all four trenches. They comprised examples from 1002E and F104E (1004E) in Trench 1,

F300E (3001E) in Trench 3, 4007E in Trench 4, and another from the cleaning layer in Trench 2.

WORKED BONE

One piece of worked bone was recovered from the site (4005). This was a metatarsal from the hind leg of a cow (Emma Hancox, pers. comm.). The bone is broken, and has been cut down at the broken end, as if to form a point. Cow metatarsals are often used in bone working to make handles and other implements, and this piece appears to be an offcut from such a process.

No further work is recommended for this item, although it may be worthy of illustration.

OTHER FINDS

Other finds from the site included a small quantity of charcoal (1005, 2004, 4016), a flint flake with evidence of retouch on both sides (3007), a rubber button (1002) and two beads. One was of a pale blue glass bead (1002) and the other was a very small (3mm diameter) opaque green glass bead, possibly of Roman date, Evaluation Tr. 1, F104E (1005E).

The only piece in this group that requires any further work are the beads, which should be examined by a glass specialist to determine their date.

5.8 The Mammal and Bird Bones by *Emma Hancox*

INTRODUCTION

Five boxes of bone (60cm x 40cm x 30cm) were recovered from the excavations. As it was a small assemblage, all the material was assessed. This report follows MAP 2 guidelines (Gill 1991), and comments on the quantity, quality and archaeological potential of the material. Very little interpretation has been attempted at this stage.

The evaluation assemblage comprised predominantly cattle, and was recovered from all four trenches. The majority came from the fills of the Roman ditch F104E, but smaller amounts came from features in the other two trenches. Signs of gnawing were present on many bones, indicating that these were not primary groups of material.

METHODOLOGY

The mammal bones were assessed following the standard protocol of Birmingham Zoological Laboratory, which is based on a modified version of the system described by Albarella & Davis (1994) and Davis (1992). This system considers certain anatomical elements as 'countable'; it does NOT include every bone fragment that is identifiable. The recordable skeletal elements considered are as follows: all the teeth, the skull (zygomaticus), scapula (glenoid articulation/cavity), distal humerus, distal radius, proximal ulna, carpals 2-3, distal metacarpal, pelvis (ischial part of the acetabulum), distal femur, distal tibia, calcaneum (sustentaculum), astragalus (lateral part), naviculo-cuboid/scafocuboid, distal metatarsal, proximal phalanges 1-3. At least 50% of the specified area has to be present to be 'countable'.

Horncores are considered as 'non-countable' elements using this system, however, they are recorded separately as noteworthy 'non-countables', along with any bones displaying evidence of butchery, pathology, burning or gnawing and any unusual species. These elements are not included in any statistical analysis. The following skeletal elements were considered 'countable' for birds: scapula (articular end), proximal coracoid, distal humerus, proximal ulna, proximal carpometacarpus, distal femur, distal tibiotarsus and distal tarsometatarsus. All fish bone fragments were considered to be 'countable'.

Measurements are not taken at the assessment stage, it is merely noted whether it is possible to take them. Measurements follow von den Dreish (1976) and Dobney et al. (1996). Most bones were identified to species. The sheep/goat, horse/donkey and chicken/pheasant/guinea fowl distinction was not attempted at this stage. Mandibles with recordable wear stages were noted, again these are not recorded at the assessment stage.

FACTUAL DATA

The animal bone derived from a number of layers and discrete features, consisting of postholes, pits and linears. The vast majority of bone derived from context 1005, a dark organic layer found across the site.

The earliest phase was of Roman origin (2nd-4th century) and consisted of a stone surface, which may represent a Roman road or street with associated ditches. Roman features in parts of the site had been heavily truncated or were totally destroyed by post-medieval activity when levelling for building construction had taken place. Most of the Roman features were sealed by a garden-like soil (1005), a layer of 'dark earth'. This contained vast quantities of Roman finds, including coins, ceramics and bone.

At this stage, only those contexts containing medieval and post-medieval pottery have been spot dated. A single countable bone was recovered from the medieval period, in context 4025, with the majority of the faunal assemblage being dated to contexts from the 17th-18th century (1005, 1011, 2014, 4003, 4005, 4014, 4017 and 4026), and 1002 and 2022 being dated to the 19th century. The remaining contexts (1003, 1004, 1012, 1015, 1017, 1020, 2004, 3004, 3005, 3006, 3009, 4008, 4012, 4015 and 4022) are currently undated. This is because they either Roman or undated.

All of the assemblage was hand collected. Bulk samples were taken for wet sieving, but the results of these are currently not available. This has repercussions on the type and ratio of taxa found in the assemblage. Without systematic and extensive sieving of samples there tends to be a bias towards larger species and anatomical elements, as may be the case here.

The state of preservation was mostly fair/poor, with poor cortical integrity (exfoliation of the outer layers of the bone surface). The majority of the assemblage was fragmented, with only some contexts producing complete or almost complete bones.

Estimating the amount of residuality in faunal assemblages is extremely difficult. Various methods have been used to attempt this (for example see Dobney *et al.* 1996;

Dobney, Kenward & Roskams 1997). One of the most common methods used is to employ pottery residuality levels as a baseline, although there may be no direct correlation, as different categories of artefact usually have different depositional pathways (refer to Evans & Millett 1992; Tomber 1991). The level of residual pottery at the Butts is very high in some contexts, 1,500 Roman pottery sherds were recovered from context 1005, which has been dated to the 17th-18th century. It is therefore likely that the bone assemblage from this context constitutes a high level of residual material.

A very low level of gnawing was observed, just 4 contexts showed evidence of this. It is not uncommon for a third of British vertebrate assemblages to be gnawed, and the Butts material was well below that threshold. This suggests that there is no secondary deposition caused by scavenging animals. Two instances of an intrusive burrowing species were noted, two contexts produced rabbit bones, both dated to the seventeenth/eighteenth century.

OVERVIEW

392 countable elements were noted along with several 'non-countables' from 30 contexts out of the 44 containing bone. 67 measurable bones and teeth and 22 ageable mandibles were recorded. The predominant species was cattle (54%), followed by sheep/goat (20%), pig (11%), horse/donkey (7%), hare (3%), dog (2%), bird (galliform) (2%), rabbit (0.5%) and a large species of fish (0.5%).

Pathology was noted in context 4015, in the form of two fused bovine vertebrae, with a fair amount of extra bone growth around the joint. Butchery was recorded in the form of cut, chop and saw marks in 13 contexts, including very fine cut marks on the metacarpal of a horse/donkey in 4015. Burning, in the form of calcified bone was recorded in 3 contexts, 1005, 2004 and 4014.

Some contexts produced high numbers of cranial and lower leg/foot elements, although the assemblage as a whole produced a wide variety of elements. 'Non-countables' were recorded in the form of cow and sheep horncores in 1005 and 1011.

DISCUSSION

The assemblage appears typical of British Roman and medieval/post-medieval sites. The majority of the material probably relates to domestic occupation, however, the presence of horncores in two contexts may suggest the working of bone and horn in the vicinity. The slightly high numbers of cranial and foot elements in some contexts may indicate tanning in the area, skins were often brought to the tanners yard with their head and feet still attached. These were then removed and discarded, with the horncores being taken to nearby bone working shops.

The period in which these activities may have taken place is currently unknown. Much of the material is undated, and even that which is, may contain a lot of residual bone. Despite the large quantity of bone recovered from the 17th-18th century, it is of little value given the probable high levels of residuality.

The horse metacarpal in 4015 with evidence of knife marks is interesting. This suggests that the animal was deliberately skinned. This has been noted at other sites in Britain. The horse bones from The Green in the Forebridge area of Stafford (Murray 2001) showed clear evidence of having been dismembered and skinned. The remains of at least 4 individuals were recovered from a large pit dated to the mid 18th century. Murray suggests that these were probably working animals who had reached the end of their lives and been skinned and defleshed before being disposed of. Horses are known to have been defleshed to feed hunting dogs on medieval and post-medieval sites (Wilson and Edwards 1993, Thomas and Locock 2000), it is possible that something similar was occurring here. Context 4015 is currently undated.

RECOMMENDATIONS

The Butts mammal and bird bone assemblage may be of archaeological potential, despite its small size. Unfortunately the material from the medieval and post-medieval periods is probably subject to contamination and it is, therefore, impossible to date the bone from these contexts. However, material from the Roman contexts may be more useful. A full analysis of the pottery should indicate whether there are securely dated Roman contexts. 96 countable elements, 20 of which are measurable come from these currently undated contexts. If they can be accurately provenanced then it would be worth carrying out a more detailed study.

The final analysis should only take place once the phasing has been finalised, and the environmental samples processed and sorted. It should be concentrated only on the Roman material. If possible the results of this analysis should be looked at in conjunction with those from other, nearby excavations of Roman sites in the city. Hopefully this will enhance our knowledge of Roman Worcester.

5.9 Analysis of the slag

Full post-excavation analysis of all the slag will be undertaken under the guidance of Sarah Paynter (English Heritage) and provided as part of the post excavation report.

6.0 ENVIRONMENTAL DATA

6.1 Preliminary archaeobotanical and archaeoentomological results from the well *by Wendy Smith and David Smith*

Six samples of 1m or 2m sediment cores covering a depth of 7m within the well (F901) were collected for the recovery of plant macro-fossil and insect remains. A 500ml sub-sample from each sample was rapidly assessed by Wendy Smith for plant and insect remains and it was determined that the bottom 3 samples (No. 6 – 6-7m, No. 5 – 5-6m and No. 4 – 4-5m) were sufficiently rich in plant macro-fossils and insect remains to be of interpretable value. The remaining samples contained extremely limited quantities of waterlogged plant macro-fossils and/or insects.

The plant remains have been fully sorted and during this process any insect remains (primarily Coleoptera, but some Diptera were also observed) were sorted out for

preliminary assessment by David Smith. Despite the small volume of material assessed the insect fauna from Sample 6 (from the base of the well) produced a relatively large fauna of well-preserved insect remains. Sample 5 also contained insect remains but Sample 4 produced only a small amount of fragments or eroded insect remains that were not possible to identify. This suggests that only the bottom two samples from this profile are well preserved.

The insects from Sample 6 consist of a collection of taxa which are commonly associated with human habitation in the archaeological record. In particular *Typhaea stercorea*, *Atomaria*, *Corticaria* and *Anthicus* species. There are also a few numbers of *Aphodius* dung beetles suggesting the presence of pasture or grassland. Small quantities of charred cereal remains, including two charred spelt glume bases, indeterminate wheat (*Triticum* sp.) awn fragments and indeterminate cereal glume/ lemma fragments were recovered. In addition, a poorly preserved fragment of possible bran was also recovered. These clearly are likely to be settlement waste, however, the waterlogged flora was almost exclusively comprised of plants of waste places such as common nettle (*Urtica dioica* L.) and small nettle (*Urtica urens* L.), which strongly dominate the assemblage, but also bracken (*Pteridium* sp.), henbane (*Hyoscyamus niger* L.) and bramble (*Rubus* sp.). Stace (1991: 625) notes that henbane is typical of 'rough or waste ground, especially manured by rabbits and cattle' and, therefore, may provide some support for pasture/ grassland in the vicinity. Several taxa typical of wet places include unidentified mosses (which most likely grew within the well itself), sedge (*Carex* sp.) and rushes (*Juncus* sp.).

Sample 5 produced a less distinctive insect fauna but does again indicate pasture or grassland and the presence of decaying settlement waste or other organic material. This sample produced a similar waterlogged plant macro-fossil assemblage to Sample 6, which was dominated by nettles, and included a range of taxa typical of waste places and also pasture/ grassland.

Sample 4 only produced a small quantity of insect remains, which were not very well preserved. On the basis of the initial assessment of fauna from the 500ml sub-sample it is likely that this sample will not produce an insect assemblage of interpretable value. Sample 4 produced the smallest waterlogged plant macro-fossil assemblage. As with Samples 5 and 6, Sample 4 was dominated by nettles and included taxa typical of waste places and pasture/ grassland.

It would seem, therefore, that the fill of the well probably consists of a mix of detritus derived from the surrounding landscape and/ or settlement waste. A full identification of the insects present in larger samples from the well will allow the relative proportions of the material present to be outlined and the nature of the deposition to be confirmed. The full identification of the plant macro-fossils and insects should provide information about the surrounding environment of the well, and possibly the site.

6.2 The pollen samples from the well

During the excavation six 1 and 2m sediment core samples from the well (F901) were collected. The lower 3 samples (No. 6 – 6-7m, No. 5 – 5-6m and No. 4 – 4-5m) will be

subject to full pollen analysis in order to discover the environmental history of the landscape

6.3 Statement of assessment results for charred plant remains by Wendy Smith

A total of 15 flots from 10L sub-samples were assessed for charred plant remains. Four of these (F304 3005 <13>, F304 3005 <14>, F305 3006 <15> and F405 4027 <23>), all of which are from ditches, were assessed as suitably rich in charred plant remains to merit further analysis. All four flots are dominated by cereal chaff fragments, primarily of spelt (*Triticum spelta* L.) and indeterminate wheat (*Triticum* sp.) glume bases. Small quantities of cereal grain and weed seeds, including oat (*Avena* sp.), small grass (POACEAE – indeterminate), dock (*Rumex* spp.) and scentless mayweed (*Tripleurospermum inodorum* L.), also have been recovered.

The abundance of cereal remains and accompanying weed seeds in these flots suggests that their full analysis will provide information about what cereals were in use on site, crop-processing activities and possibly growing conditions. In addition, the analysis of these flots will provide information on rubbish disposal into the ditch system on site.

It is recommended that further material from these samples is processed and included in the full analysis. In addition to the full analysis of these flots, a selection of further samples from securely dated contexts should be rapidly scanned for charred plant remains. Any of the flots from these samples which prove to be sufficiently rich in charred plant remains to be of interpretable value will be fully analysed.

7.0 ASSESSMENT

7.1 The Paper Archive

Table 8. Excavation Archive

MATERIAL	EVALUATION	EXCAVATION
Context Record Sheets	51	113
Feature Record Sheets	25	66
Plans and sections	15	39
Colour Slides	2	4
Colour Prints		
Black & White Prints	2	4
Survey Sheets	2	6
Environmental Sheets	1	24

7.2 Stratigraphic Data

The features and deposits on site have, for the most part, been dated by ceramic spot dating. Where pottery was not retrieved from features the principles of archaeological stratigraphy were used to obtain a *terminus ante quem* or *terminus post quem*.

8.0 UPDATED PROJECT DESIGN

The site is clearly within the Roman suburb lying to the west of the Roman road and has the potential to make a significant contribution to research into the Roman settlement at Worcester. The finds assemblage from The Butts has the potential to form an important addition to the regional corpus, and offers the opportunity to enhance our understanding of the nature of the settlement at Worcester. The Roman pottery in particular formed two chronological groups, which suggests a hiatus of activity on the site during the late 2nd or 3rd centuries. While the entire assemblage will form part of the publication it is proposed that the work on this assemblage will focus on the late Roman period. Primary groups of early Roman pottery have been well studied from other sites in Worcester. However, no site in Worcester has yet produced a well-stratified group of late Roman pottery (Evans 2004), which makes the analysis of the material from the 'dark earth' deposits of particular importance. The evaluation suggested that there was no survival of dark earth and consequently it wasn't part of the original project design. In view of the fact that dark earth was found on the site the undertaking of soil micromorphology or other detailed analysis would probably have proved to be important to our understanding of the nature of this context (1005).

Area D has been the most productive of the areas in terms of the charred plant remains, in particular the ditches and the pits. The remainder of the samples from the ditches and pits of all areas will be processed and a full report on the charred plant remains produced for the publication. Of particular interest is the well due to its location on the very edge of the Roman occupation, and as such has the potential to provide information regarding land use within and on the fringes of the settlement. Initial analysis of the material from the well suggests that the lowest two metres are waterlogged, while the remaining 4.5m are the result of a single episode of back filling. The environmental evidence suggests this material is derived from both the surrounding landscape and/ or settlement waste. A full identification of the insects, plant macro-fossils and pollen present in the waterlogged samples and one from the remainder of the well will be undertaken in order to provide information about the surrounding environment of the well and allow the nature of the deposition to be confirmed. This will also provide suitable environmental material for comparative analysis with other sites in Worcester, in particular from cores taken from the well at 1 The Butts (Napthan 2004).

Further analysis of the pottery and environmental remains will provide dating evidence to enable further phasing of the site. The site narrative will then be ordered by phase (rather than by areas) and will include the stratigraphic evidence from earlier work (PN741.01), the excavation results and the watching brief results. If possible this material should be published with the artefactual and stratigraphic evidence from other recent excavations, in particular from 1 The Butts (Napthan 2004), and the unpublished late Roman material from Castle Street (Dalwood 1997).

Further research will seek to focus on the analysis of the environmental evidence in order to provide information on the surrounding environment and settlement during the Roman period. This may also contribute to an understanding of industrial and/or processing activities. Further historical research and an examination of these results in the light of

recently excavated sites will set the site into the wider historical and archaeological background. Research will also be updated in the light of the very recently published Deansway excavations in the CBA research series.

Following further analysis of the pottery, small finds, the animal bone and the environmental evidence, an updated report on the results of the excavation will be prepared for publication in the BAR British Series.

9.0 ARCHIVE AND PUBLICATION SYNOPSIS

Life and Industry in the Northern Roman Suburbs:

Excavations at 14-20 The Butts, Worcester, 2003

By Richard Cuttler and Jane Evans

With contributions by Robert Bracken, Bob Burrows, James Grieg, Emma Hancox, Isabel Nogueira, Erica Macey-Bracken, Helen Martin, Stephanie Rátkai, David Smith and Wendy Smith.

Illustrations by Nigel Dodds

Text

Summary (250 words)

Acknowledgements (250 words)

Introduction - the site and its landscape setting, background to the excavation (1,000 words)

Aims and Methodology (300 words)

The Results – an illustrated account outlining main features and site characteristics (4,000 words)

Specialist reports:

The Roman Pottery by Jane Evans (2500 words)

Late Saxon, medieval and Post-medieval pottery by Stephanie Rátkai (200 words)

The small finds by Isabel Nogueira (3,000 words)

The plant macro-fossils by Wendy Smith (1,500 words)

The insect remains from the well by David Smith (1,800 words)

The pollen evidence from the well by James Grieg (1000 words)

Animal bone by Emma Hancox (1000 words)

Discussion and conclusions (3,000 words).

References

Total 19,800 words

Figures (by Nigel Dodds)

1 Location plan

2 Site location in Worcester

3 The location of archaeological work in the vicinity of The Butts

4 The excavation, watching brief and evaluation areas

5 Area F

- 6 Area A
- 7 Area B
- 8 Area D
- 9 Area E
- 10 Main Sections
- 11 Pottery (30-45 drawings)
- 12 Small Finds (15 drawings)
- 4 Plates

This will be published with a second mainly Roman site in Worcester (St Martins Gate) in the BAR British Series as a Birmingham Archaeology Monograph. The volume may also include other recently excavated Roman sites subject to funding and discussions with the relevant project manager.

1 The Butts Mike Napthan Archaeology
8/12 The Butts Mike Napthan Archaeology,
Castle Street (CCTE) Worcs HEAS
Conder Building Archenfield Archaeology
Kardonia Worcs HEAS

10.0 TASK LIST AND TIMETABLE

10.1 Task list

The task numbers below give the names of the individuals responsible for the completion of the task, and the number of days allocated.

	Person	Days
Overall project management	RC	3
Re-phasing of narrative/check phasing	BB	2
Draught figures for site narrative -plans	ND	2
Preparation of first draft of introduction and results	RC	3
Specialist reports requiring further analysis		
a) Tile	EMB	1.5
b) Stone	tbc	1
c) Study of x-rayed iron finds	tbc	0.5
Comparison of nails etc with date material	EMB	0.5
d) Glass beads	tbc	0.5
e) Bone	EH	3
f) Roman pottery	JE	tbc
g) The iron finds	EMB	1
Illustration	ND	5

The environmental data

Sorting and full identification of archaeobotanical

Remains	WS	2
Preparation of the report	WS	5
Analysis of the insect remains	DS	7.5
Analysis of the pollen	JG	5
Editing/correction to specialist reports	RC	1
Preparation of first draft of discussion	RC	2
Corrections to first draft	RC	1.5
Corrections to illustrations	ND	1
Final proof reading	RC	0.5
Final corrections to text/illustrations	RC	0.5
Preparation of excavation and research archive	HM	1
Deposition of archive	EMB	0.5

BB – Bob Burrows, RC - Richard Cuttler, ND – Nigel Dodds, JE – Jane Evans, JG – James Grieg, EH - Emma Hancox, EMB - Erica Macey-Bracken, HM – Helen Martin, WS – Wendy Smith and DS – David Smith.

10.2 Provisional timetable

A timetable is currently not available, however, subject to the availability of specialists the following timetable is proposed:

January 2005 to August 2005. Analysis and completion of specialist reports.

September 2005 to October. Provision of draft discussion and editing of specialist reports.

November 2005 to December 2005. Provision of draft publication and integration of text into BAR volume.

The date of final publication will depend on the provision of publication texts by the individual authors to be included in the Worcestershire BAR volume.

11.0 ACKNOWLEDGEMENTS

Thanks to Phil Brown who commissioned the project on behalf of Miller Homes. The excavation was supervised by Bob Burrows with the assistance of Ioannis Altsitzoglou, Bob Bracken, Richard Cherrington, Dhaminder Chuhan, Paul Harris, Kristina Krawiec and Sally Radford. The watching brief was undertaken by Helen Martin, Eleanor Ramsey and Erica Macey-Bracken. The evaluation was supervised by Gary Coates and Eleanor Ramsey with the assistance of Bob Burrows, Heather Hopkins, Philip Mann, Charlotte Neilson, Andrew Newton, Andrew Rudge and Dan Slater. Trench 4 was excavated by Charlotte Neilson and Eleanor Ramsey. The written report was edited by Richard Cuttler. The project was managed for Birmingham Archaeology by Richard Cutter and Gary Coates. The illustrations were by Nigel Dodds. Many thanks to Dr Roger White who commented on the report and thanks also to James Dinn who monitored the project on behalf of the Worcester City Council. Lastly thanks to Rachel Robson from Birmingham University for handling all publicity relating to the works.

12.0 REFERENCES

- Addyman, P. V. 1999. *The Archaeology of York: The Small Finds*, Vol. 17, Fascicule 12. The York Archaeological Trust by the Council for British Archaeology.
- Albarella, U and Davies, S. 1994. *The Saxon and Medieval Animal Bones Excavated from 1985-1989 from West Cotton, Northamptonshire*. London. AML Report 17/94.
- Ayto, E.G. 1999. *Clay Tobacco Pipes* Shire Album 32, Shire Publications, Princes Risborough
- Baker, N J, Dalwood, H, Holt, R, Mundy, C and Taylor, G. 1992. 'From Roman to medieval Worcester: development and planning in the Anglo-Saxon city' *Antiquity* 66 65-74
- Barker, P A. 1969. 'The Origins of Worcester' *Trans. Worcestershire Archaeol. Soc* 3rd Ser. 2
- Barker, P A, White, R H , Pretty, K B, Bird, H & Corbishley, M J. 1997. *The Baths Basilica, Wroxeter. Excavations 1966-1990*. English Heritage Archaeol. Rep. 8
- Bishop, M.C. 1996. *Finds from Roman Aldborough: A catalogue of small finds from the Romano-British town of Isurium Brigantum*. Oxbow Monograph No 65. Oxbow, Oxford
- Bretherton, J. 1998. *Watching Brief at 3-5 The Butts, Worcester* HWCC Rep. 629
- Bryant, V. and Evans, C. J. 2001, The Roman pottery, in H. Dalwood and R. Edwards (eds.) 2001, *Deansway, Worcester: excavations by Charles Mundy 1988-89*, Draft publication report, Archaeological Service, Worcestershire County Council, Internal Report 920 (4 vols.), 20-55
- Buteux, V. 1997 'The Finds', in Dalwood *et al.* 1997
- CAS 1995. *Kardonia, Farrier Street, Worcester. Assessment and Post-Excavation Proposal* County Archaeological Service Rep.
- Carver, M O H (ed.), 1980. *Medieval Worcester, an archaeological framework* *Trans. Worcestershire Archaeol Soc*, 3rd ser., 7
- Coates, G.A. and White, R.H. 2000a. *An archaeological evaluation on land at 14-20 The Butts, Worcester*. Birmingham University Field Archaeology Unit, Project No. 741
- Coates, G.A. and White, R.H. 2000b. *Final report on an archaeological evaluation on land at 14-20 The Butts, Worcester*. Birmingham University Field Archaeology Unit, Project No. 741.01
- Cracknell, S. and Mahany, C. (eds) 1994. *Roman Alcester: southern extramural area 1964-1966 excavations*, Vol. 1, Part 2: Finds and Discussion. CBA Research Report 97. Council for British Archaeology, York
- Crummy, N. 1983. *Colchester Archaeological Report 2: The Roman Small Finds from Excavations in Colchester 1971-9*. Colchester Archaeological Trust, LTD, Colchester.
- Dalwood, C.H., Buteux, V.A. and Jackson, R.A. 1992. 'Interim report on excavations at Deansway, Worcester, 1988-1989'. *Trans. Worcestershire Archaeol. Soc 3rd Series, Volume 13*

- Dalwood, C H, Buteux, V and Darlington, J. 1994 'Excavations at Farrier Street and Other Sites North of the City Wall, Worcester 1988-1992' Trans. Worcestershire Archaeol. Soc. 3rd Ser. **14**, 75-114
- Dalwood, C H, Buteux, V and Pearson, E. 1997 *Evaluation at former County Education Offices, Castle Street, Worcester*, Hereford and Worcester County Council Report **585**
- Darlington, J. 1988 *Evaluation at Sansome Street, Worcester* HWCC Rep. **14**
- Darlington, J. and Evans, C. J. 1992, *Roman Sidbury, Worcester: Excavations 1959-1989* Trans. Worcestershire Archaeol. Soc. 3rd Ser. **13**, 5-104
- Davis, S. 1992. *A Rapid Method for Recording Information about Mammal Bones from Archaeological Sites*. London. AML Report 19/92.
- Dobney, K. Jaques, D and Irving B. 1996. *Of Butchers and Breeds*. Lincoln Archaeological Studies 5. Lincoln.
- Dobney, K., Kenward, H. & Roskams, S. (1997) All mixed up and somewhere to go? Confronting residuality in bioarchaeology. In De Boe, G. & Verhaeghe, F. (eds) *Method and theory in historical archaeology: papers of the "Medieval Europe Brugge 1997" conference*. Zellik: Instituut voor het Archeologisch Patrimonium. I.A.P Rapporten 9. 81-87.
- Edwards, R E. 1990 *Evaluation at Love's Grove, Worcester* HWCC Rep 43
- Edwards, R., Griffin, L. and Dalwood, H. 2002, *Excavations on the site of the new police station, Castle Street, Worcester*. Trans. Worcestershire Archaeol. Soc. 3rd Ser. **18**, 103-132
- Esmonde Cleary 1989 *The Ending of Roman Britain* Batsford
- Evans, J. & Millett, M. (1992) Residuality revisited. *Oxford Journal of Archaeology*, **11**(2), 225-240.
- Evans, Jeremy, Lee, F. and Lindquist, G. 1994 Vessels with incised graffiti, in S Cracknell and C Mahany 1994, (eds) 1994, *Roman Alcester: Southern Extramural Area. 1964-1966 Excavations. Part 2: Finds and Discussion*, CBA Res Rep **97**, 124-130
- Evans, C.J. 2000, The Roman pottery in R.H. White 2000, *Excavations in advance of water main relining at Wroxeter Roman city, Shropshire*, BUFAU Report **462.2**
- Evans, C. J. 2004, The Pottery in M. Napthan, *Archaeological works at 1 The Butts, Worcester*. WCM 101107, 101108, 101109, 12-16, 21-24. Mike Napthan Archaeology.
- Fowler, 1983 in Crummy, *The Roman small finds from excavations in Colchester 1971-9*. Colchester Archaeological Trust, LTD, Colchester.
- Gill, A. (1991) *Management of archaeological projects*. London: English Heritage.
- Grierson, P. 1975. *Numismatics*. Oxford University Press. London
- Hill, P.V. 1964. *The coinage of Septimius Severus and his family of the mint of Rome, A.D. 193-217*. Spink and Son Ltd, London
- Hooke, D. 1980 'The hinterland and routeways of Anglo-Saxon Worcester: the charter evidence', in Carver 1980, 29-49.
- Hurst JD and Rees H 1992 Pottery fabrics; a multi-period series for the County of Hereford and Worcester in S Woodiwiss (ed) *Iron Age and Roman salt production and the medieval town of Droitwich* CBA Res Rep 81 1992 200-209
- Jackson, R. 1992 *Evaluations at The Butts, Worcester* HWCC Rep. **106**

- Jones, E. and Vyce, D. 2000 *Worcester Magistrates Court, Castle Street, Worcester. An Interim Statement of an Archaeological Excavation* Archaeological Investigations Ltd.
- Kenyon, D. 1999 *Croft Road/The Butts & Newport Street, Worcester. Archaeological Assessment*. Cotswold Archaeological Trust Report **991116**
- Macphail, R.I. 1994 'Soil micromorphology' in Dalwood, H., Buteux, V. and Darlington, J. *Excavations at Farrier Street and Other Sites North of the City Wall, Worcester 1988-1992* Trans. Worcestershire Archaeol. Soc. 3rd Ser. **14**, 83-4
- MacGregor, A. 1985. *Bone, antler, ivory, and horn: the technology of skeletal materials since the Roman period*. Croom Helm Ltd, Kent.
- MacGregor, A. 1999. 'Craft, industry and everyday life' in Addyman.
- Manning, W. 1985. *Catalogue of the Romano-British iron tools, fittings and weapons in the British Museum*. British Museum Publications, London
- Mundy, C F. 1986. 'Worcester Archaeology Project 1985/6', interim report, typescript, Archaeology Section, Hereford & Worcester County Council
- Mundy, C F. 1989. 'Deansway Archaeology Project, HWC3899 Deansway, Interim Excavation Report', Archaeology Section, Hereford & Worcester County Council
- Murray, E. 2001. The Animal Bone. In Coates, G. and Duncan, M. *An Archaeological Evaluation on the site of The Green, Forebridge, Stafford*. BUFAU Report 757.01.
- Thomas, R. & Locock, M. 2000. 'Food for Dogs? The Consumption of horse flesh at Dudley Castle in the 18th Century' *Environmental Archaeology* **5**, 83-92.
- Napthan, M. 2004, *Archaeological works at 1 The Butts, Worcester. WCM 101107, 101108, 101109*, 12-16, 21-24. Mike Napthan Archaeology.
- Neal, D., Wardle, A. and Hunn, J. 1990. *Excavation of the Iron Age, Roman and medieval settlement at Gorhambury, St Albans*. English Heritage Archaeological Report No. 14
- Peacock, D.P.S., 1967, 'Romano-British Pottery Production in the Malvern District of Worcestershire.' *Trans Worcestershire Archaeol Soc*, 3rd Ser, **1** (1965-7), 15-28
- Price, J. and Cottam, S. 1998. *Romano-British glass vessels: a handbook*. Council for British Archaeology, York
- Robertson, A.S. 1971. *Roman imperial coins in the Hunter Coin Cabinet, Vol. II. Trajan to Commodus*. Oxford University Press.
- Robertson, A.S. 1982. *Roman imperial coins in the Hunter Coin Cabinet, Vol. V. Diocletian (Reform) to Zeno*. Oxford University Press.
- Seager Smith, R. and Davies, S.M. 1993 Black Burnished Ware Type Series. The Roman Pottery from Excavations at Greyhound Yard, Dorchester, Dorset. Wessex Archaeology. (Offprinted from P J Woodward, S M Davies, and A H Graham, 'Excavations at the Old Methodist Chapel and Greyhound Yard, Dorchester 1981-1984,' *Dorset Natural History and Archaeological Society Monograph Series* **12**
- Stace, C. 1991. *New Flora of the British Isles*. (1st edition) Cambridge: Cambridge University Press.
- Sutherland, C.H.V. 1974. *Roman coins*. Barrie & Jenkins, London
- Tomber, R. (1991) *Methods for investigating deposit homogeneity*. *Journal of Roman Pottery Studies*, **4**, 59-68.
- Von den Driesch, A. 1976. *A Guide to the Measurement of Animal Bones from Archaeological sites*. Peabody Museum Bulletin 1, Harvard University.

- Webster, P.V. 1976, Severn Valley Ware: A Preliminary Study. *Trans Bristol Glouc Archaeol Soc*, **94**, 18-46
- Webster, G. 2000. The Roman Baths and Macellum at Wroxeter. English Heritage, London
- Wheeler, R.E.M. and Wheeler, T.V. 1932 *Report on the Excavation of the Prehistoric, Roman and Post-Roman site at Lydney, Gloucestershire* Rep Res Comm Soc Antiq London **IX**.
- White, R.H. 1988 *Roman and Celtic Objects in Anglo-Saxon Graves* British Archaeol Rep, British Ser **191**
- White, R.H. 2000 'Wroxeter and the Transformation of Late Roman Urbanism', in T. Slater (ed.) *Decline in Towns, 100-1600* Ashgate, 96-119
- Willis, S. forthcoming, The Iron Age and Roman pottery in R. Jackson forthcoming, The Roman settlement of *Ariconium*, near Weston-under-Penyard, Herefordshire: An Assessment and synthesis of the evidence.
- Woodward, A. and Leach, P. 1993. *English Heritage Archaeological Report No. 17: The Uley Shrines*. English Heritage and British Museum Press.

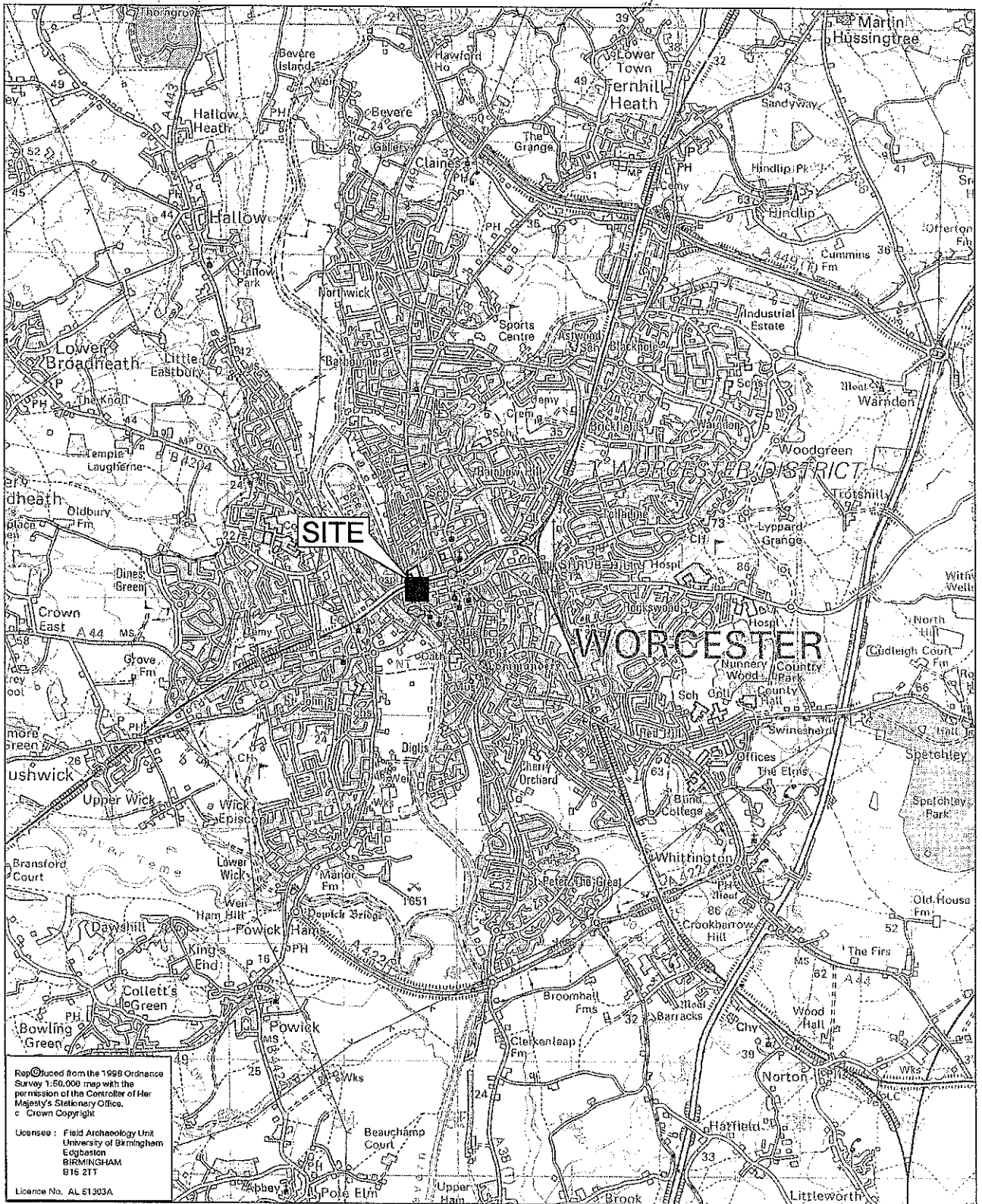


Fig.1

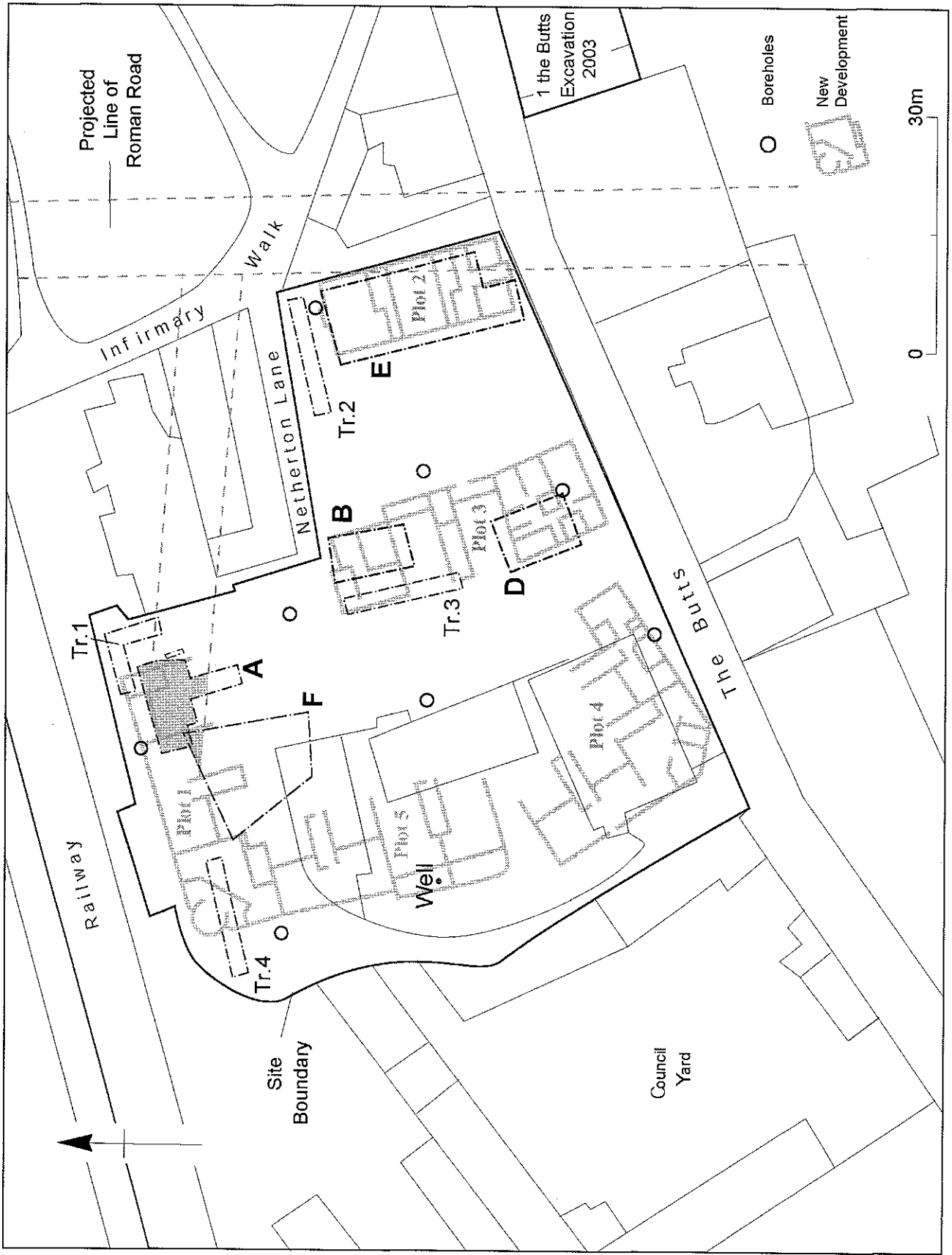


Fig.2

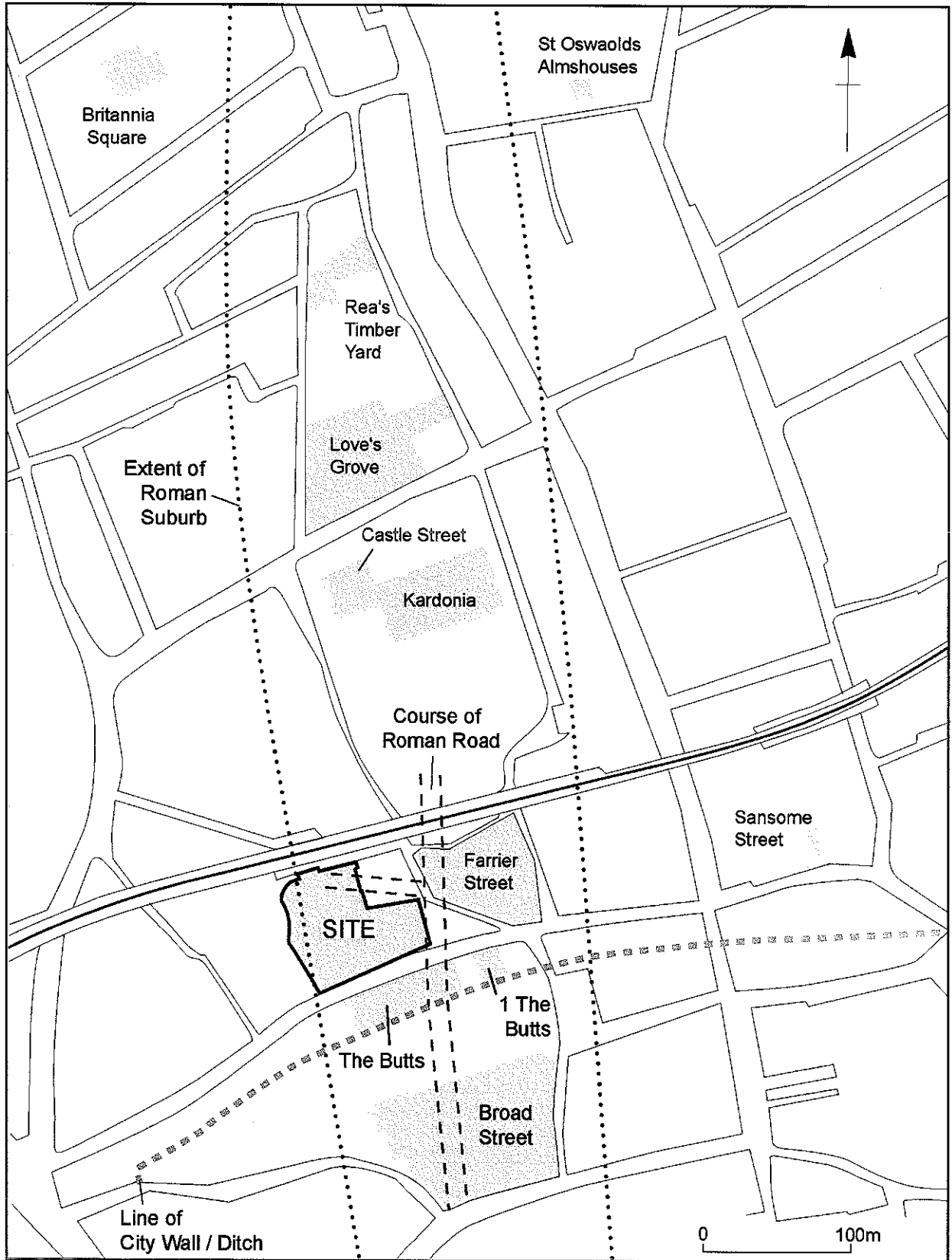


Fig.3

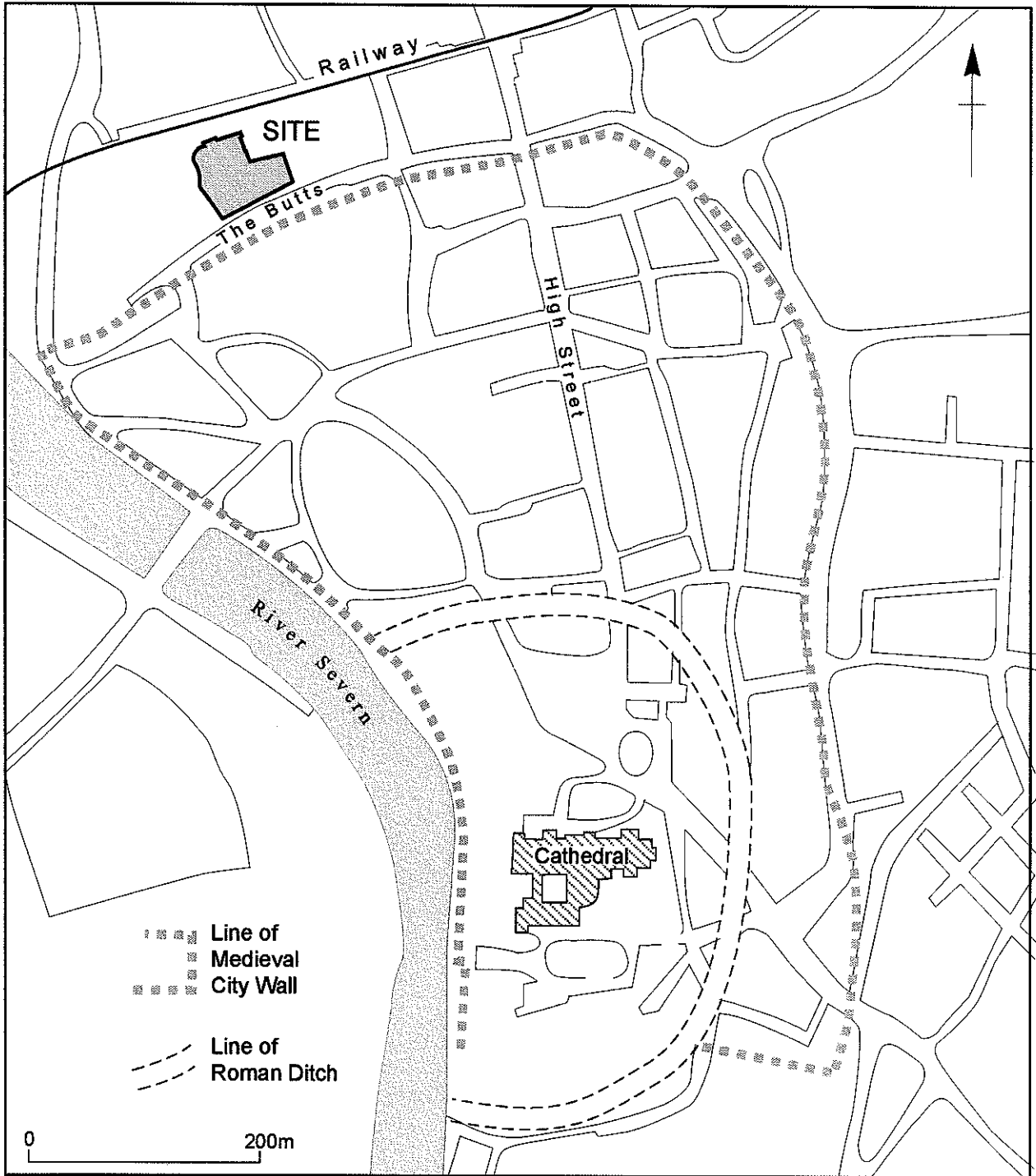


Fig.4

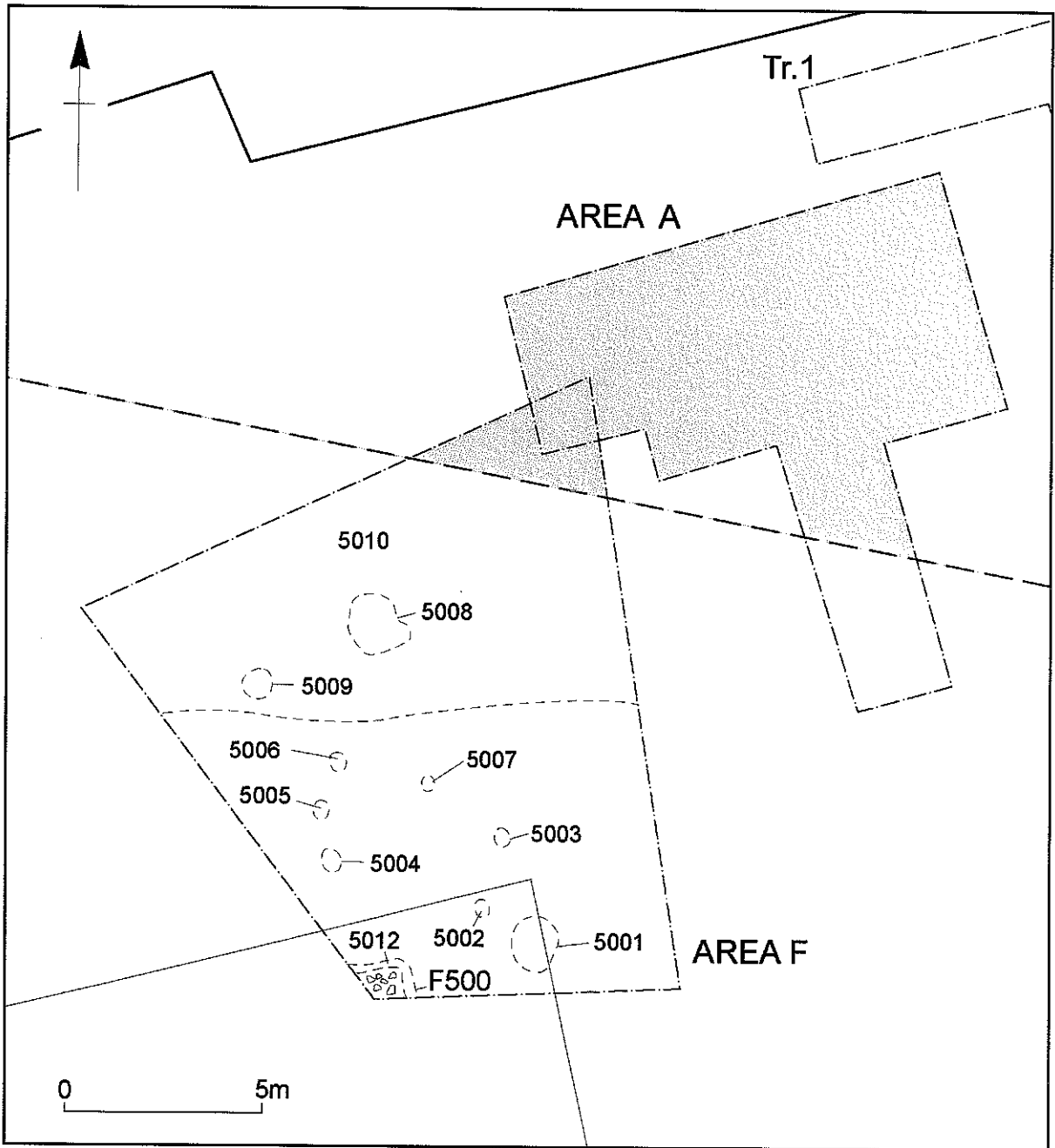


Fig.5

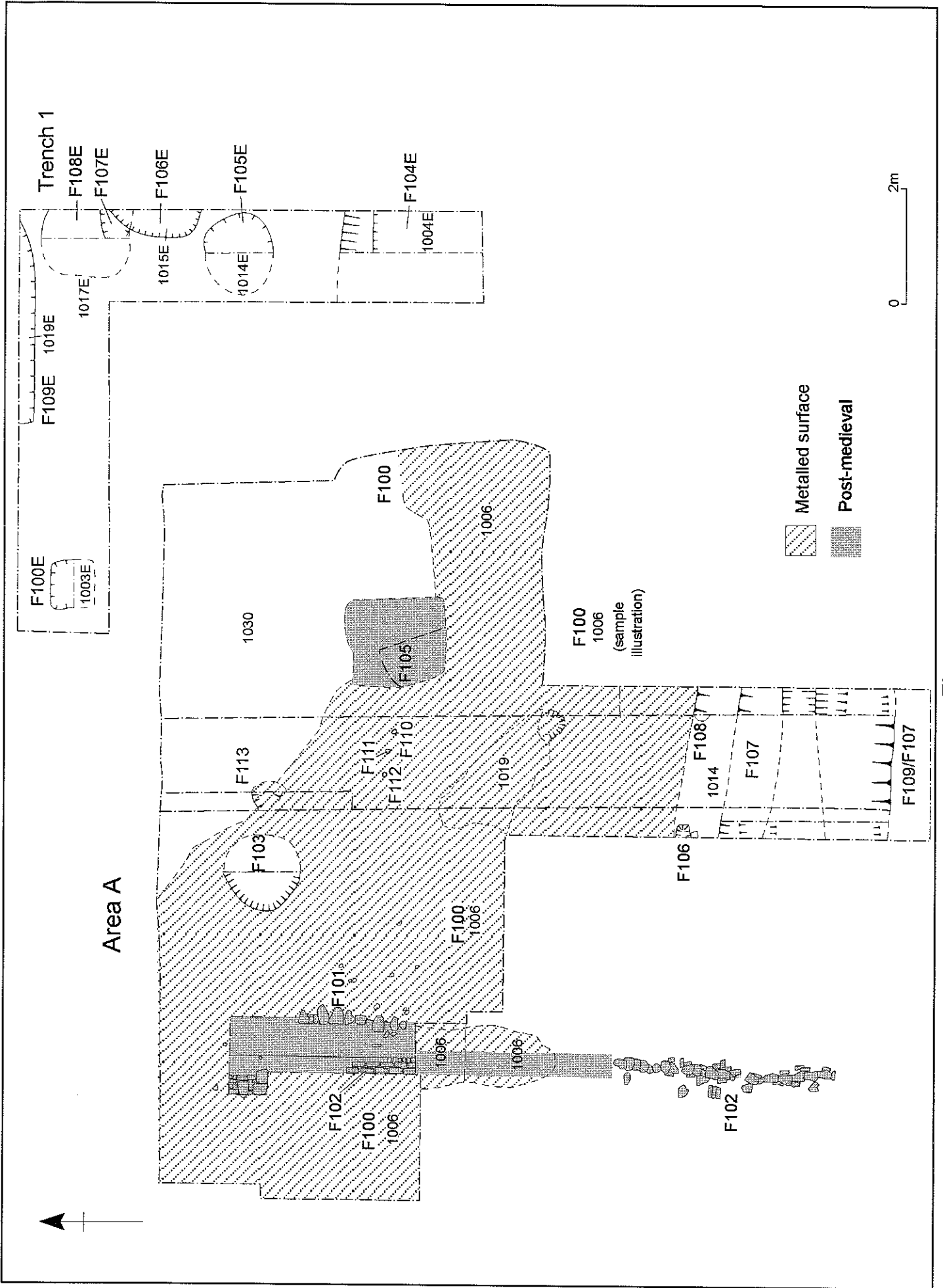


Fig. 6

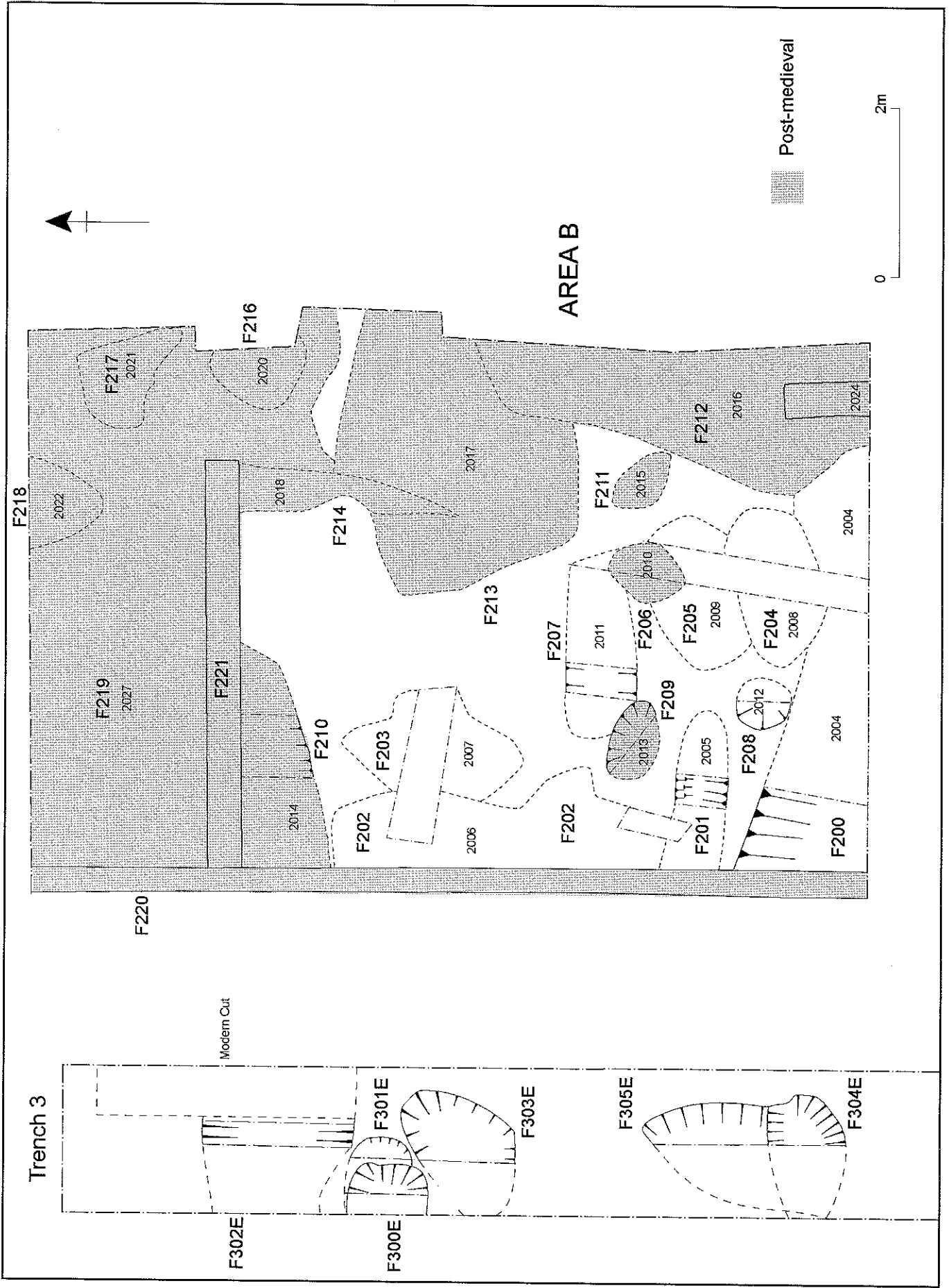


Fig.7

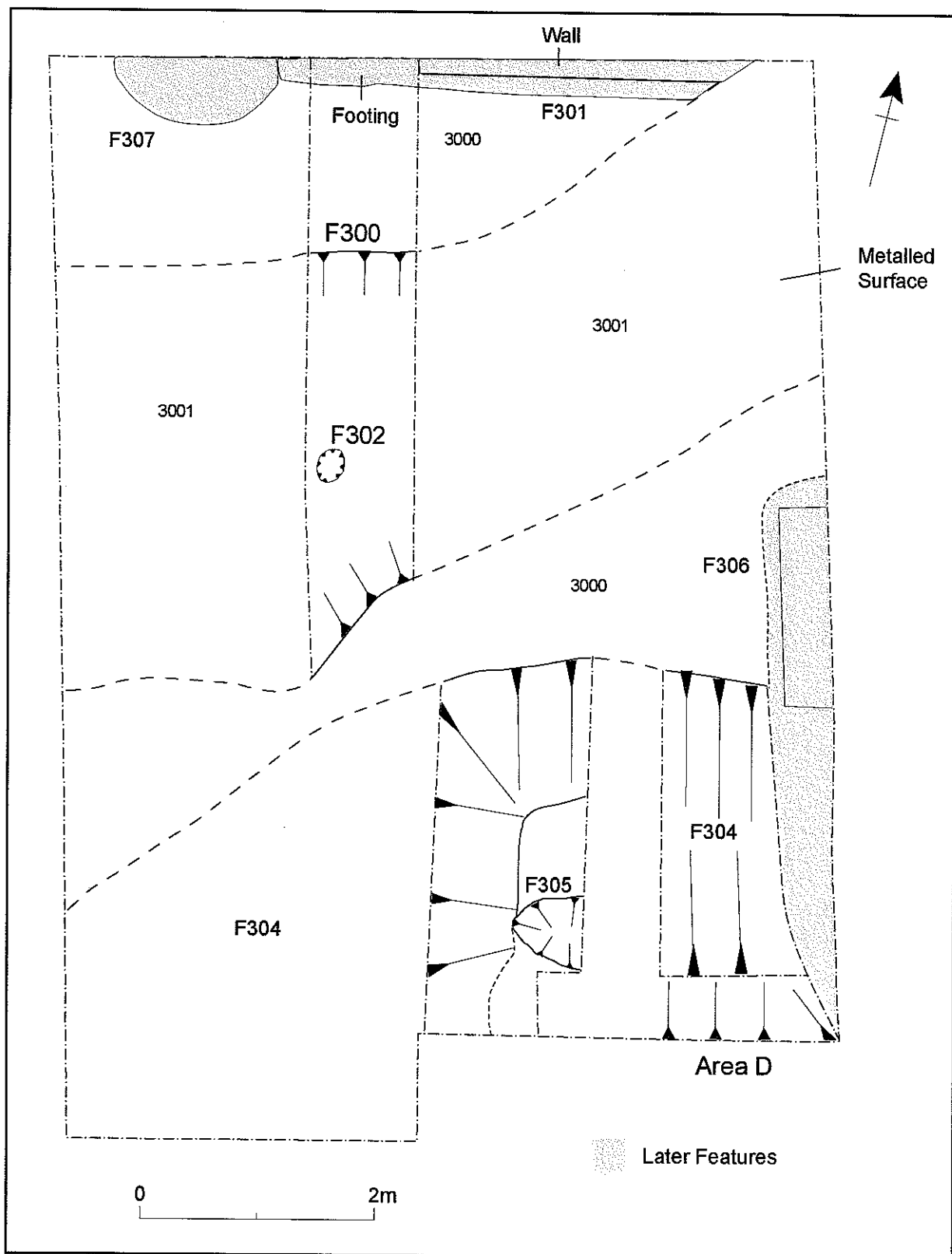


Fig.8

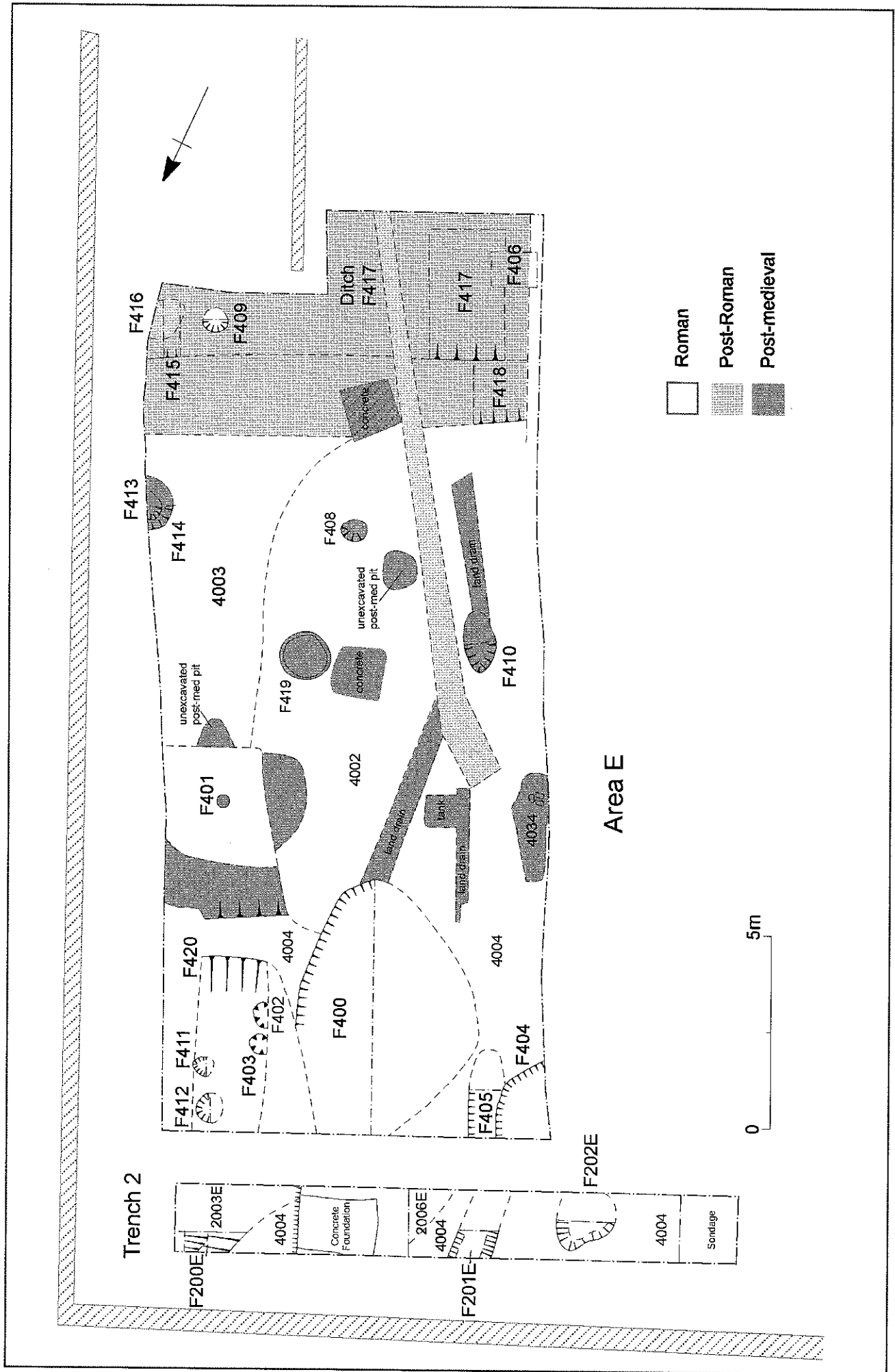


Fig.9

Appendix 1 Quantification of the mammal and bird bones

CONTEXT	DATE	PRESERVATION	COUNTABLE BONES/TEETH						AGEABLE MANDIBLES						BIRD	COMMENTS		
			BOVID	OVID	SUVID	OTH	BIRD	FISH	BOVID	OVID	SUVID	OTH	BOVID	OVID			SUVID	OTH
1002	19th	Fair	1	2														Saw and cut marks
1003		Fair	4															
1004		Fair	136	43	33	14	2											
1005	17th-18th	Fair						6	6	3								Chop and cut marks, gnawing teeth, 1 hare, 1 rabbit. 3 cow and 7 sheep/goat horncores
1011	18th	Fair	6	2	1	8												Chop marks, cow horncore, OTH=hare
1012		Fair/poor	2	4		1												Cut and chop marks, OTH=equid
1013	19th	Fair	1	4														Cut marks, gnawing
1015		Poor																Cut marks
1017		Poor	9	4	1													
1020		Fair/poor	4	2				1										Chop marks, calcified bone, horncore
2004		Fair/poor	5	4	1													Chop marks, OTH= two dog mandibles
2014	18th	Good	3	2		2												
2022	19th	Fair	1															
3004		Fair/poor	10	2	2	2	1											Cut marks, OTH=dog and hare
3005		Fair/poor	3	3	2													Very juvenile pig bones
3006		Fair/poor	3	3														Gnawing
3009		Fair/poor	1		1													Cut and chop marks, juvenile suvid bones
4003	17th-18th	Fair	5	1		3	1											OTH=two equid and 1 rabbit
4005	17th-18th	Very poor	4															
4008		Poor	1															
4012		Very poor	1			1												OTH=equid
4013		Poor	2	1					1									Chop and cut marks, calcified bone
4014	17th-18th	Fair/poor	8	1														OTH=8 equid and 4 dog. NCs-2 residual EQ MPs, cut marks on equid MC, pathology on vertebrae
4015		Fair	3	1		12												
4017	17th-18th	Fair	1															
4022		Fair		1														
4023/24		Poor	1															
4025	15th-16th	Poor		1														
4026	17th-18th	Poor		1		1	2											
U/S		Varied	1	1	1	1	2	1										OTH=EQ MP
Totals			213	81	42	46	8	2	7	12	3	35	23	4	5	0		Cut and chop marks, horncore, OTH=EQ