METCHLEY ROMAN FORTS, BIRMINGHAM (AREA 18)

ARCHAEOLOGICAL EXCAVATION 2004-2005

POST-EXCAVATION ASSESSMENT

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(Area 18)

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POST-EXCAVATION ASSESSMENT

By Alex Jones

With contributions by Jane Evans, Felicity Wild,
James Greig, Anthony J Swiss and Erica Macey-Bracken

Illustrations by Nigel Dodds

For further information please contact:
Birmingham Archaeology
The University of Birmingham
Edgbaston
Birmingham B15 2TT
Tel: 0121 414 5513
Fax: 0121 414 5516
E-Mail: bham-arch@bham.ac.uk
Web Address: http://www barch.bham.ac.uk/bufau

METCHLEY ROMAN FORTS, BIRMINGHAM
(Area 18)

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METCHLEY ROMAN FORTS, BIRMINGHAM
(Area 18)

EXCAVATIONS 2004-2005

POST-EXCAVATION ASSESSMENT

1.0: SUMMARY

An area excavation was undertaken in December 2004-May 2005 within the western part of the interior and defences of Metchley Roman forts, Birmingham (centred on NGR SP 045836, Area 18) in advance of proposals for a new hospital development. The fieldwork was undertaken by Birmingham Archaeology on instruction from University Hospital Birmingham NHS Trust. The excavation followed a desk-based assessment which highlighted the potential of the area to contain part of the left side of the Central Range and *Praetentura*, and a length of the western defences of the fort. Earlier excavations within other parts of the fort interior have identified complex sequences of timber-framed internal buildings, some re-built or re-arranged, belonging to the Phase 1 fort, and the remains of temporary structures and fenced compounds associated with the Phase 2B military stores depot, together with evidence of contemporary ironworking. Few structures associated with the smaller Phase 3 fort have been found - mostly comprising parallel granary beam-slots. The latest Roman occupation of the complex, Phase 4, was represented by re-cuts of fort and annexe ditches, and by a limited number of features found within the fort interior.

Only a very small-scale evaluation of Area 18 was possible. Most of the area for excavation was occupied by a range of single-storey temporary buildings which were only demolished as part of the immediate pre-excavation programme of ground clearance. A total of six test-pits each measuring 2m square were excavated during the evaluation phase of fieldwork. These revealed cut features of Roman date, in addition to disturbance by the later use of the site (Duncan 2004).

Further lengths of the western defences had previously been tested by excavation, to the north and south of Area 18, which provided the first opportunity to identify and examine the arrangement of the *Porta Principalis Dextra*. Some limited testing of the western defences by means of slit-trenches had been undertaken by St Joseph and Shotton in the 1930s.

The earliest features identified in the Area 18 excavation comprised a palisade trench and associated features, possibly associated with a Roman military construction camp (Phase 1A). The excavation sampled a length of the Phase 1B western defences, defined by double ditches, and including the *Porta Principalis Dextra*, further defined by a double portal gatehouse (Structure B) incorporating a single guardchamber. Traces of the *Via Sagularis* and the *Via Principalis* were recorded, together with a zone of industrial activity in the western *intervallum* containing ovens and a well. Within the Central Range were the remains of the beam-slots of timber-framed buildings laid out on two slightly different alignments (Phases 1C and 1D; Structures 6-7 and Structures 1-2 respectively), which may have formed part of the *Principia*.

Within the *Praetentura* was identified part of a further timber-framed building (Structure G).

Part of the former *Praetentura* was cleared preparatory to the layout of three ditched enclosures, defined by palisade trenches, within the Phase 2B military stores depot. As an exception, it is possible that Phase 1C-D Structure 2 may have continued in use, as is suggested by the layout of Phase 2B temporary structures around, but within the earlier building. Some evidence of small-scale industrial activity was also recorded during Phase 2B within the former Central Range.

Part of the western defences of the Phase 3 fort which comprised a single ditch cut to a V-shaped profile, a contemporary turf rampart, with a single timber-framed guardchamber (Structure 9) were located on the northern side of *the Porta Principalis Dextra*. Surviving activity within the Phase 3 fort interior was largely limited to part of a single building, a granary (Structure 5) located within the Central Range. In Phase 3/4, the Phase 3 guardchamber went out of use, and was replaced with two rectangular buildings (Structures E-F) built directly to the south, and partially blocking the *Via Principalis*.

Phase 4A activity was limited to the re-cutting of the Phase 3 ditch, and the excavation of a group of pits of possible industrial function outside the contemporary fort. An irregular ditch and contemporary pitting, cut within the abandoned *Porta Principalis Dextra* after the military abandonment of the site post-dates the Roman military abandonment of the complex, or may even date to the Anglo-Saxon or medieval periods (Phase 4B) during which the fort's ditch and rampart continued to be visible. Post-medieval and modern activity (Phase 5) mainly comprised terracing in preparation for the construction of Vincent House and associated service-trenches.

This report describes the results of the Area 18 excavation and provides proposals to bring the results to publication as part of the series of Metchley fort excavation reports.

2.0: INTRODUCTION

2.1: Background

The Roman fort complex at Metchley (Figs. 1-2) was first identified from cartographic sources and antiquarian descriptions, and more recently by extensive trial-trenching and excavation. The fort defences, still surviving as above-ground earthworks in the 18th century were mapped and described in detail at that time (Jones 2001, 10-12). The Roman date of the earthworks was only confirmed in the 1930s when limited slit-trenches were cut in advance of an earlier hospital development (St Joseph and Shotton 1937), including trenches dug within the area excavated in 2004-5.

Large-scale investigations were directed by Trevor Rowley within the fort interior during 1967-9 (Jones 2001; Fig. 2). Rowley's excavations identified timber-framed buildings including barrack-blocks, a granary, store building and a workshop associated with the earliest, Claudian fort (Phase 1), contemporary with a *vicus* first

identified in 2001, laid out outside the western defences (Jones 2001). Excavations in the 1960s, and latterly in 1998-9 and 2004 identified Neronian (Phase 2A) annexes added all four sides of the Phase 1 fort (Jones 2005, Jones forthcoming a). Deliberate clearance of the Phase 1 buildings was followed as a single operation by the construction of temporary structures, and fenced compounds associated with a military stores depot (Jones 2001, 43-54). Subsequently, after a period of abandonment, the fort was re-occupied, and a smaller fort of Flavian date (Phase 3) was laid out within the interior of the Phase 1-2 fort. After the abandonment of the Phase 3 fort later in the 1st century, continued, if not continuous, Roman activity was recorded through the 2nd century, either small-scale military or civilian in nature. This latest suite of Roman activity (Phase 4; Phase 4B in the Area 18 investigations) may be associated with a possible *mansio* or *mutatio* on or near the site, serving traffic on routes leading to Wall, Droitwich and Alcester, although occupation by a specialist military force is also a possibility. Metchley lay within an early post-medieval hunting park (Phase 5), until piecemeal enclosure in the later 18th century. The fort defences continued to be visible as upstanding earthworks in places until the 1960s.

2.2: December 2004-May 2005 fieldwork

This report describes the results of excavations within the western part of the interior and western defences of Metchley Roman fort (Birmingham SMR no. 2005, Jones 2001, Jones 2005, centred on NGR SP 045836, designated Area 18 within the sequence of Metchley investigations, Figs. 2-3). It provides proposals to being the results to publication in accordance with the Management of Archaeology Projects 2 (English Heritage). The Area 18 excavation is the largest single excavation conducted within the fort interior and defences at Metchley. It is also one of the largest archaeological excavations undertaken within Birmingham.

The area investigated (Figs. 2-3) formerly comprised the footprint of Vincent House - three linked prefabricated blocks, with a concrete floor and external yard surfaces, and the Queen Elizabeth Hospital Garage, a single-storey brick building (Plates 1-3). The natural southeast-facing natural slope was in places terraced to facilitate their construction, resulting in markedly differential survival of archaeological deposits. The area excavated included part of the western defences of the Phase 1-2, and Phase 3 forts, part of the Central Range and *Praetentura* of the Phase 1-3 forts, and an area outside the Phase 3 fort defences. Other adjoining investigations of the Phase 1 western defences lay to the southwest (Area 14, Jones in preparation). Further to the west, areas outside the fort defences have also been examined by excavation (Areas 9, 12, 13, 15, 16, 17, Jones 2002). Following completion of the Area 18 excavation, further excavation was undertaken within the Central Range (Area 20, Jones in preparation a).

The first stage of archaeological appraisal comprised a desk-based assessment (Jones 1999) which also included other areas within and adjoining the fort complex. Trial-trenching was limited to the excavation of six 2m square test-pits (Duncan 2004). The strategy for the Area 18 excavation was set down in two Written Schemes of Investigation (Birmingham Archaeology 2004a and b, reproduced as Appendix 1), approved by Birmingham City Council.

St Joseph and Shotton (1937) examined the western defences of the Phase 1-3 forts by means of hand-dug slit trenches. The northern terminals of the Phase 1 and Phase 3 forts were identified at this time, although their southern counterparts were not. Trenches were also cut along the line of the *Via Principalis* in the vicinity of the entrance, without identifying any associated structural features. The trenching was conducted immediately before the construction of Vincent House.

Parts of the northern and eastern fort interior and adjoining defences have been designated a Scheduled Ancient Monument, notably including part of the Central Range located immediately to the east of Area 18.

2.3: Aims

The aims of the Area 18 excavation were to:

1) Provide details of the western defences of the Phase 1-2 and Phase 3 forts, including environmental evidence from dry or waterlogged deposits.
2) Provide details of the industrial features within the *intervallum* area.
3) Contribute towards an appreciation of the Phase 1 layout of internal buildings within the *Praetentura*, and of subsequent changes to that layout.
4) Test the area for evidence of a possible continuation of the Phase 4 defences located to the north of Vincent Drive.
5) Contribute towards an understanding of the overall chronology of the complex.
6) Contribute towards an understanding of the pattern of military supply.
7) Correctly identify and map the western fort defences, including entrance structures.

2.4: Methodology

Archaeological monitoring was maintained during removal of the concrete floor slabs of Vincent House and the Queen Elizabeth Hospital Garage, to ensure that demolition clearance did not penetrate below-ground archaeological deposits (Fig. 3, Plates 1-3). The area excavated was then stripped of topsoil and overburden by a 360 degree excavator working under continuous archaeological supervision. The machined subsoil surface was hand-cleaned as necessary to define features, or possible features, of archaeological interest. Additional machining was undertaken with a mini-digger to remove post-medieval features and deposits, following their testing by selective hand-excavation. Other features were tested by hand-excavation only. Ditches were sampled in total approximately 25% by length. Post-medieval features were tested sufficient to confirm their date, and to establish their character and extent. Discrete features (pits and post-holes) were half-sectioned, except in the case of industrial features when sampling was 100%, as agreed during the excavation. Structural features, principally beam-slots were sampled approximately 25% by length.

Recording was by means of pre-printed pro-formas for contexts and features, plans (at 1:20) and sections (at 1:20) and monochrome and colour slide photography. Contexts and cuts were numbered in a sequence of four digit numbers, beginning with 1000 in the *Praetentura*, and 2000 in the Central Range. Additionally, konstruct numbers were allocated in post-excavation (commencing 'C' in the Central Range, and 'P' in the *Praetentura)*. Structure numbers have also been allocated based on a number sequence in the Central Range, and a letter sequence in the *Praetentura.*

Subject to permission from the landowner it is proposed to deposit the archive with Birmingham City Museum and Art Gallery.

For simplicity it is assumed that the fort is aligned north-south, although the drawings are labelled with compass north.

3.0: RESULTS

3.1: Phasing (Fig. 2)

TABLE 1: Metchley Roman forts, summary of phasing for Area 18

Phase	*Defences/ Vicus*	*Interior*
1 First fort, 4 ha. Claudian	**1A** Early defences, possible construction camp	**1C** Presumed early alignment of internal features
	1B Fort defences, double ditches and rampart, gatehouses	**1D** Possibly later alignment of internal features
	(**1E** Western annexe. *Vicus* outside western defences, Area 14)	
2A Outer annexes Neronian	(Northern, eastern, southern and possible western annexes)	(Possibly contemporary with later re-arrangement of internal buildings, Areas 3-4)
2B Military stores depot Neronian-Flavian	New gatehouse arrangement. Backfilling of Phase **1** ditches at end of Phase **2B**	Evidence of metalworking, animal pens, irregular buildings and fences
3 Second fort, 2.6 ha. Flavian	New circuit of defences, guardchamber	Granary building (Granaries, Area 2, trial-trenching in Central Range)
3-4	Re-definition of Phase **3** guardchamber and associated features	
4A	Re-cutting of Phase **3** defences, pits dug outside fort	
4B Post-military abandonment, ? post-Roman	Irregular ditch and associated pitting in area of former *Porta Principalis Dextra* – informal blocking of entrance. Cultivation soil deposited outside Phase 3 fort	(Anglo-Saxon and medieval cultivation, Area 8; three sided ditched enclosure, Area 3-4)
5		Post-medieval, re-cutting of ditches, re-use of trackway (Ditch re-cuts, Area 20, re-use of fort roads, Area 11)

Note, entries in parentheses relate to other excavations

The phasing (Table 1) is based on the four phases defined by earlier work at the site (Jones 2001, Jones 2005). Four possible suites of Phase 1 activity have been defined within Area 18. Phases 1A (possible construction camp) and 1B (first fort), in that order, have been applied to the sequence of Phase 1 fort defences. Phases 1C (possibly early alignment) and 1D (possibly later alignment) define the sequence of internal features belonging to the early fort, also in that order. The two-fold sequence of activity along the Phase 1 defences has been separated from the similarly two-fold division of Phase 1 internal features, since no stratigraphic or other evidence exists to link the defences and internal features, or to conclusively prove the sequence of

Phases 1C and 1D. Internal features have been ascribed to Phase 1C-1D where they cannot be related to either Phase 1C or 1D. It is not possible to further refine the chronology of the Phase 1 sub-phases, because of limitations in the pottery dating evidence. It is also possible that later Phase 1 activity may be contemporary with the construction of external annexes (Phase 2A), although no stratigraphic nexus can be established between internal features and the annexes. Phase 1E (western annexe, Jones in preparation) lies outside the Phase 1A-1D scheme, because it cannot be stratigraphically related to the other components of the Phase 1 fort (Areas 13-14).

Finally, the features attributed to Phase 3-4 are those which post-date Phase 2B, and pre-date Phase 4A. In this assessment Phase 4 has been subdivided. Phase 4A is equivalent to Phase 4 in earlier reports. A group of undated features within the former *Porta Principalis Dextra* which may post-date the Roman military abandonment of the site, or even post-date the Roman period have been attributed to Phase 4B in this report, which may even be Anglo-Saxon or medieval in date. Post-medieval-modern features are here ascribed to Phase 5, as in earlier reports.

The sequence of backfills within features, or feature groups is not illustrated.

3.2: Arrangement of results

Within each phase the main features are first summarised. Secondly, the western defences are described, from north to south. Then the internal features are described, firstly those in the *Praetentura*, and finally those within the Central Range. Within each of these parts of the fort interior the description runs approximately from west to east. Thus, the western *intervallum* is described first, followed by description of the remainder of the *Praetentura* or Central Range. The features are then interpreted, in the same order. Details of the dating evidence and of the metalworking residues are either summarised or tabulated.

The Phase 1-5 features were cut into the natural subsoil, 1008, an orange-yellow silt-clay.

3.3: Phase 1 (Fig. 4)

3.3.1: Summary of Phase 1A-1D features (Fig. 5)

The earliest defensive features (Phase 1A) comprised an alignment of post-holes and a pit, together with part of a building, L-shaped in plan, Structure A, defined by beam-slots.

The Phase 1B defences of the first fort comprised double ditches, P116/C176 and P117/C175. The ditches were interrupted by an entrance, the *Porta Principalis Dextra* further defined by a double portal gatehouse, Structure B, with a single guardchamber to the north. Although no trace of the rampart survived *in situ*, its tail was defined by a line of post-pits.

Area 18 examined a length of the western *Via Sagularis,* an adjoining area of industrial activity in the western *intervallum*, and part of the western side of the *Praetentura* and Central Range, divided by the western end of the *Via Principalis*.

One group of Phase 1C-1D industrial features were located within the *intervallum*, together with part of a timber-framed building, Structure G, a possible workshop. The main concentration of Phase 1 internal buildings was within the left side of the Central Range. Here, the timber-framed buildings, represented by beam-slots followed two orientations (Phases 1C and 1D) which differed by seven degrees. Fragments of two buildings following the likely earlier orientation (Phase 1C) were recorded (Structures 6 and 7). Two Phase 1D structures (Structures 1 and 2) were identified, both probably comprising rebuilds of their Phase 1C predecessors. Structure 2, the most extensive building recorded within Area 18, contained a number of rectangular rooms, separated by corridors. This building may be interpreted as the *Principia*. The internal layout of the building was altered during its later use.

3.3.2: Description and interpretation of the Phase 1A defences

Possibly the earliest feature identified was a beam-slot, L-shaped in plan, Structure A. It measured 7.5m north-south, P119, and 2.5m east-west, P118. The beam-slots measured an average of 0.5m in width, and 0.18m in depth, and were backfilled with light orange-brown silt-clay. No traces of the northern or western sides of the building could be identified; these could have been open. Towards the northern terminal of P119 were two adjoining post-holes, 1105 and 1107, each measuring 0.2m in diameter, and 0.18m in depth. A post-hole, 1273, was also cut flush with the northern terminal of P119. Also associated with Structure A was a post-hole, 1244, cut 2m to the south of P118, and a pit, 1042, dug 3m further to the south. The pit measured 1.24m in diameter, and 0.24m in depth. The two post-holes and the pit were flush with the line of P119.

These features could have represented a temporary definition of the fort's western defences, perhaps associated with a construction camp, as suggested by other, similar features located in the area of the Phase 1B rampart further to the south along the same side of the fort defences (Jones, Area 14, forthcoming). The L-shaped structure found in Area 18 could represent part of a temporary shelter, perhaps associated with an early definition of the *Porta Principalis Dextra*. These ephemeral features will have been protected from disturbance by the overlying Phase 1B western rampart. Elsewhere, where such protection was not afforded, any such ephemeral features may have been entirely scoured-out by later Roman, and post-Roman disturbance.

An alternative interpretation of the Phase 1A feature group is that they formed part of additional Phase 2B defensive obstacles placed within the berm between the innermost ditch and rampart. Although such additional obstacles are known from other parts of the defensive circuit, they have not been recorded along the western defences. Furthermore, traces of pre-Phase 1B rampart features have been recorded further to the south of the western defences (Jones forthcoming a). It is these features from Area 14, interpreted as associated with a construction camp, that provide the best parallel for the features attributed to Phase 1A within Area 18.

P119 contained samian of 1st century and pre-Flavian date, and coarse wares belonging to the same date ranges.

3.3.3: Description of the Phase 1B defences (Fig. 5)

The Phase 1B western fort defences were cut along the western edge of a plateau, at the time of excavation defined by a hedged field boundary which followed the approximate course of the outermost Phase 1B fort ditch which therefore mostly lay outside the excavated area. The western fort defences were defined by two parallel, north-south aligned ditches, C176/P116 and C175/P117, cut into the subsoil, and interrupted by the *Porta Principalis Dextra*.

The outermost ditches, P117/C175 were separated by an entry-gap measuring 7.5m in width. The innermost pair P116/C176 were separated by a distance of 9m (Plates 4-5). The terminals of both ditches were irregular in plan, possibly as a result of re-cutting which may also explain the apparent misalignment recorded between the ditch terminals. The ditches were separated by a berm measuring 2m and 2.5m in width, to the south and north of the entrance, respectively. The full width of the outermost ditches was not recorded within the area excavated.

To the south of the entrance, the innermost ditch, P116 (Plate 5), measured a maximum of 5.2m in width, and 1.8m in depth. It was cut to a V-shaped profile which was more steeply-sloping on its inside face. Towards the terminal the ditch developed a basal cleaning-slot. The extreme eastern edge of the outermost ditch, P117, was cut to a steep profile. To the north of the entrance the innermost ditch, C176, was less well-preserved, probably as a result of modern levelling-down. It measured 3.5m in width, and survived to a depth of 1.3m. It was cut to a V-shaped profile. The profile of the outer ditch, C175, was not recorded.

A gravelled trackway, 1119, measuring approximately 8-10m in width was laid over the subsoil forming a westward continuation of the *Via Principalis* within the fort interior.

Excavation provided details of the original layout and later re-arrangement of the *Porta Principalis Dextra*, the only Phase 1B fort gateway to be excavated at Metchley. The main entrance feature was a gatehouse, Structure B, positioned across the western terminus of the *Via Principalis*, and also extending to the north. This building was rectangular in plan, with its main axis aligned north-south. It measured 10.5m north-south, and 3.5m east-west. The building was defined by seven post-pits, three recorded along its western (outer) wall, and four positioned at a separation of 3.5m along its eastern wall.

The southern side of the building was represented by two post-pits, 1773 and 1263, positioned at a separation of 2.8m (measured centre to centre). This side of the building was positioned flush with the northern terminal of P116. The northern pair of post-pits, 1150 and 2252 were positioned 3m apart (measured centre to centre). These two pits were cut 2.5m to the north of the terminal of C176, and were flush with the terminal of C175. The western side of the building was located between 2-2.5m to the east of the innermost edge of P116 and C176, the difference in dimensions probably being accounted for by re-cutting.

A room, R1, in the north of the building was defined on its southern side by a pair of post-pits, 1365 and 1752, cut 3.2m apart, may be interpreted as a guardchamber. R1

measured 3m (north-south), and 3m to 3.2m (east-west). No internal features could be recorded within it. No surviving trace of a corresponding southern guardchamber could be identified at excavation.

Post-pit 1174 (Plate 6), positioned at a distance of 3.5m from 1752 and 1263 presumably defined the central support a double-hinged gate, positioned to the south of R1. No other features associated with the Phase 1B gatehouse could be identified.

Details of the post-pits are tabulated (Table 2). Most of the post-pits were circular, or sub-circular in plan, with the exception of 1150 which was oval, and 1174 and 1752 which were roughly rectangular in plan. Most post-pits were cut to vertically-sided profiles, with the exception of adjoining 1150 and 1365, which were cut to a stepped profile. With the exception of 2252 all the post-pits contained post-pipes. Their backfills suggest burning of the posts *in situ.* An exception was the lower fill, 1367, of 1368, which may represent turf packing.

TABLE 2: Details of Phase 1B gatehouse, Structure B

Post-pit	*Diam x depth*	*Backfill*	*Post-pipe*	*Diam x depth*	*Backfill*
Front (west side)					
1150	1.50m x 0.60m	1148, dark brown silt-clay	1150a	0.30m x 0.40m	1148a, black silt-clay
1365	1.50m x 0.60m	1364, mottled grey-orange silt-clay	1368	0.20m x 0.80m	1367, light grey/white silt-clay (turf packing), sealed by dark grey silt-clay, 1366
1773	0.98m x 0.72m	1772, light brown sand-silt-clay	1771	0.32m x 0.23m	1770, black-grey silt-clay
Rear (east side)					
2252	1.54m x 0.34m	2251, dark brown silt-clay	Possibly removed during recovery of post		
1752	1.40m x 0.25m	1751, orange-brown silt-clay-sand	1754	0.52m x 0.25m	1753, dark grey-brown charcoal-rich silt
1174	1.84m x 0.84m	1173, light brown-orange sand-silt-clay	1180	0.22m x 0.92m	1179, grey-black silt-clay
1263	1.10m x 0.74m	1262, light brown-grey sand-silt-clay	1266	0.19 x 0.92m	1264, grey-black silt-clay

To the north of the entrance the line of the rampart tail was defined by a line of irregularly-spaced post-pits 2248, 2378, 2518 and 2032. Post-pit 2248 was cut by post-pit 2230. This measured 1.50m in diameter, and 1.32m in depth, and was backfilled with grey-white silt-clay, 2229, interpreted as turf packing for the post, sealed by orange-brown silt-clay, 2226-2228. Post-pit 2378 was circular in plan, and measured a maximum of 1.90m in diameter, and 1.22m in depth. It was backfilled with grey silt-sand-clay, 2377, sealed by black silt-clay, 2376. A smaller post-pit, 2518, was located 2.5m to the north (measured centre to centre). It measured a maximum of 0.86m in diameter, and 0.42m in depth. It was backfilled with light grey silt-sand, 2517, possibly comprising turf packing. The northernmost post-pit on this alignment, 2032, was located a further 10m to the north. It measured a maximum of 0.9m in diameter, and 0.25m in depth. A small post-hole, 2123, was also located within the northern part of the excavated rampart.

No *in situ* trace of the rampart survived modern levelling-down either to the north or south of the entrance.

Post-pits 2378 and 1263 contained coarse ware pottery of 1st century date. The Phase 1B ditches continued to be periodically cleaned-out until the end of Phase 2B (see below) and therefore no *in situ* Phase 1B deposits could be identified within their backfills.

3.3.4: Interpretation of Phase 1B defences (Fig. 5)

The separation of 2m to 2.5m between the ditches was smaller than the figure of 3m recorded by Johnson (1983, 55) for double-ditched systems. Further to the south, along the western defences the recorded berm was 2m (Area 14, Jones forthcoming a), possibly as a result of more intensive re-cutting there. In comparison to the size ranges of 2.4-6.1m in width and 1.2m-2.7m in depth suggested by Jones (Jones 1975, 106) for double ditched systems, the excavated profiles lay closer to the smaller size ranges, possibly because of modern truncation. Excavation by Rowley (Jones 2001, 18, Area 3A) along the northern part of the western defences confirmed that the inner ditch was the larger (measuring 4m (wide) by 1.8m (deep); as against 3m by 1m for the outer ditch). The Area 14 excavation (Fig. 2), close to the southern end of the western defences, identified the outer ditch as the larger of the pair. In the Area 14 excavation the innermost ditch measured an average of 4m in width and 1.3m in width, which indicates that at least to the south of the entrance, that this ditch was better preserved in Area 18, because of limited modern truncation. No surviving trace of ditch re-cuts were recorded in Areas 14 or 18. The rampart did not survive *in situ* in Area 18. The truncated base of a turf rampart was found in Area 14, although insufficient survived to provide details of its construction. It may be anticipated that the western rampart had outer turf cheeks and a core of turf blocks mixed with soil, the most common form of rampart construction up to the Trajanic period (Jones 1975, 59).

The *Porta Principalis Dextra* was defended by a gatehouse, Structure B, with a single guard-chamber to the north. It is possible that this arrangement was adopted because this was only a subsidiary fort entrance, although ground-plans of the other three contemporary gatehouses have not been revealed by excavation. Alternatively, it is possible that the gatehouse was never completed, although this is the less likely alternative. The northern and southern walls of the gatehouse may have originally been flush with the adjoining ditch terminals, and with post-pit 2248/2230. The northern innermost ditch, C176, may have been subsequently extended to the south, as a result of re-cutting.

There are no clear published parallels for the Structure B gatehouse. It most nearly resembles the double-portalled six post towered type of gate (e.g. The Lunt, Hobley 1969, fig. 1; Hobley 1989, fig. 2.16), with two exceptions. Firstly, there was no central gatepost on the front face of the gatehouse. Secondly, the gatepost was 'strengthened' at Metchley by the addition of a guard chamber to the north. As such, it was also a variant of the double-portalled ten post type with flanking towers recorded at Jay Lane (Hobley 1989, fig. 2.20), again, without the central gate post on its outside face.

Another possibility is that the post-pit retaining the central gate post on the outer face of the gatehouse was less substantial in depth than the other features, and may have been scoured-out by downcutting, although this is relatively unlikely. At Hod Hill (Johnson 1983, fig. 54) there was no central post-pit recorded along the outside of the gatehouse, a similar arrangement to that recorded in Structure B at Metchley.

The lack of a central post-pit on the western side of the Metchley building suggests the gate structure did not include an outer, as well as an inner, pair of gates. These outer gates may have been omitted because the *Porta Principalis Dextra* was only a subsidiary entrance to the fort. Alternatively, assuming that the narrow western fort annexe (Jones forthcoming a) was part of the original fort arrangement, it is possible that the gate did not perform a strictly defensive function, merely that of providing separation between the fort and western annexe. The area outside this side of the fort was steeply-sloping and bordered by a marshy area, which may have reduced the potential for attack from this side of the fort, and consequently, the need to provide several lines of defence here.

As noted below, the Phase 3 gatehouse also only has one guard-chamber, positioned to the north of the entrance (see below), although, admittedly, the area to the south of the entrance was heavily disturbed.

Although the Phase 1B rampart itself was not identified, it may have measured approximately 6m in width to the north of the *Via Principalis*. The western side of the rampart may have been flush with the western side of Structure B. To the north of the entrance the rampart tail was defined by a line of post-pits. No such evidence for a rearward revetment of the rampart could be located to the south of the entrance, despite this area being less affected by modern levelling-down.

3.3.5: Description of Phase 1C internal features (Fig. 5)

Parts of two Phase 1C timber-framed buildings, defined by beam-slots, Structures 6 and 7, in the extreme north of the excavated area, were the only features that could be confidently ascribed to Phase 1C. These buildings follow a slightly different alignment to those of Phase 1D (see below). The Phase 1C remains are less extensive than those of Phase 1D, and may be presumed to be the earlier, although this cannot be conclusively proven. The Phase 1C features were cut into the subsoil, 1008.

The north-south aligned possible eastern wall, C100, of Structure 6 was recorded for a length of 3.75m. The remaining external walls of the building lay outside the excavated area, or outside the area of good archaeological survival. C100 was cut to a U-shaped profile, and measured 0.26m in width, and 0.12m in depth. It was backfilled with orange-brown sand-silt. No other features associated with C100 could be recorded.

The western wall, C107, of Structure 7 was located 8m to the east of C100. Both walls followed a parallel, north-south orientation. The remaining outer walls of Structure 7 were not located within the excavated area, and are presumed to have been located outside it, unless removed by modern truncation. C107 was recorded for a length of 12.2m, and was cut to a U-shaped profile, measuring 0.4m in width and 0.1m in depth, and was backfilled with dark brown-grey sand-silt, flecked with

charcoal. The northern terminal of a further beam-slot, C105, located 2m to the west of C107 could have formed part of a discontinuous verandah located along the western side of the building.

Two north-south aligned internal beam-slots, C111 and C114, each measuring 2m in length, and separated by a distance of 1.4m were recorded within the interior of the building. Any trace of a possible joining, east-west aligned wall, may have been scoured-out by a Phase 3 beam-slot (C112, see below).

The line of Phase 1C internal dividing wall C111 may have been continued to the south by a pair of adjoining post-holes, 2527 and 2531, separated by a distance of 0.7m (measured centre-to-centre). C114 may have been continued to the south by a post-hole, 2474, and an elongated pit, 2511, further to the south. Other evidence of the internal division of the building, and of associated floor surfaces, may have been removed by later disturbance.

A further north-south aligned beam-slot, C110, recorded for a distance of 0.7m may also be attributed to this phase, although it did not survive for a sufficient length for its possible Phase 1C alignment to be verified. C110 was cut by a Phase 1D beam-slot, C109 (see below).

The only Phase 1C internal feature to contain datable pottery was C105 within Structure 7, which contained coarse wares dated to the 1st century.

3.3.6: Description of Phase 1D internal features (Fig. 5)

The Phase 1D features were cut into the subsoil; one was also cut through a possible backfilled Phase 1C feature and into the subsoil.

Parts of two Phase 1D buildings, defined by beam-slots, Structures 1 and 2, were identified in the north of the excavated area. Despite their slightly different alignment (seven degrees difference in alignment), the Phase 1D buildings demonstrated overall continuity in arrangement with their Phase 1C predecessors. The outer walls of Phase 1D buildings Structures 1 and 2 were both cut approximately 0.7m (measured centre-to-centre) to the east of their Phase 1C predecessors, maintaining the gap measuring approximately 8m in width recorded between the two Phase 1C buildings (see above).

The presumed eastern beam-slot, C101 of Structure 1 was recorded for a length of 4.6m in the extreme north of the excavated area. The remaining three sides of the building lay outside the excavated area, or outside the area of good archaeological survival. C101 was cut to a U-shaped profile, and measured 0.2m in width, and 0.1m in depth, and was backfilled with mottled light brown-grey-orange sand-silt. No associated features were recorded.

The northern part of Structure 2 (Plate 7) was recorded to the east of contemporary Structure 1. Parts of the western, C108, the northern, C109, and the eastern wall, C130/C135 of Structure 2 were recorded, together with details of its original internal layout, and later internal re-arrangement. The excavated part of the building measured 17m in width (east-west), and a minimum of 18m (north-south). The southern wall lay outside the area of good archaeological survival and had been scoured-out entirely.

The northern wall, C109, was cut into backfilled beam-slot C110, which may belong to Phase 1C Structure 7 (see above). The northern and western walls of Structure 2, C109 and C108, were recorded for lengths of 4.3m and 6.3m, respectively. These beam-slots were cut to a U-shaped profile, and measured an average of 0.4m in width, and 0.1m in depth. They were backfilled with mottled grey-brown, or grey, sand-silt. A post-hole, 2600, was cut at the extreme northwestern corner of the building. The eastern side of the building was represented by two beam-slots, C130 and C135 which were slightly offset, and of different size. The beam-slots were separated by a possible entry-gap measuring 2.5m in width.

The interior of the excavated part of the building was originally divided into seven rooms (R1-R7), initially arranged in five rows across the width of the building, which are described in turn from west to east. Room R1, in the extreme west of the building was L-shaped in plan. It measured between 4.2m and 3m in width (east-west), and at least 10m in length (north-south). Its eastern walls, C113 and C118 were offset by a distance of 1.2m (measured centre-to-centre). An entry-gap measuring 1m in width was retained between the northern end of C113 and the northern side of the building. The southern terminal of C113 was cut by a post-hole, 2399. Two post-holes, 2483 and 2485, may have further defined the entry gap between the southern terminal of C113 and the northern terminal of C118. An oval pit, 2571, was the only feature identified within this room.

Room R2 lay to the east of R1, and to the west of C113 and C119. It was also L-shaped in plan, and measured between 0.5m and 1.3m in width, and was recorded for a length of 6m. It is likely to have functioned as a corridor. A possible entry-gap measuring 0.5m in width was retained between the southern end of C113, and the northern end of C119.

Immediately to the east of Room R2 were three further rooms, R3-R5, each measuring approximately 4.4m in width, to the east of C113/C119 and to the west of C124. R3 in the north of this group was recorded for a length of 3.8m (north-south). An entry-gap was retained in the southwestern angle of R3. A gap was also retained between the northern, C116, and western, C119, walls of R4, an arrangement usually adopted for stability, to ensure that the beam-slot ends do not break down. R4, the only fully defined room in this group measured 4.3m north-south. The southern wall of this room, C122, terminated just inside the eastern wall, C124. C122 cut C119, but did not extend beyond it, which may suggest that C122 was a later addition, R4 and R5 being created by sub-division of an originally undivided space. Finally, R5, the southernmost of the group was recorded for a length of at least 2.4m (north-south), but its southern wall could not be recorded at excavation.

To the east of Rooms R3-R5 was Room R6, defined on its eastern side by C129. This room measured 6.5m in width (east-west), and was recorded for a length of 10m. The easternmost room of the building, R7 measured 1.7m in width (east-west). It was recorded for a length of 12m, and probably functioned as a corridor. C129, defining the western side of R7, may have been continued to the south by C140 and C136.

The internal Structure 2 beam-slots were cut to U-shaped profiles, and measured an average of 0.32m in width, and 0.3m in depth, and were backfilled with grey silt-sand, or brown clay-silt.

Evidence of a two-staged re-arrangement in the extreme east of the building, possibly during Phase 1D, was recorded within the area originally occupied by rooms R6-R7 in the east of the building. Following the abandonment of R6, the first stage of this re-arrangement was represented by the insertion of a north-south aligned wall, C127, at a distance of 0.6m to the west of C129, which may have gone out of use. The southern terminal of C127 was cut by a post-hole, 2628, presumably framing the northern side of an entry-gap whose other side had been scoured-out by later disturbances. C127 was contemporary with an east-west aligned beam-slot, C126, which was extended 1.5m to the east of C127, blocking R7, a corridor in the original arrangement, which probably went out of use. To the west, C126 terminated 0.6m to the east of C124, possibly defining an entry-gap between the two beam-slots. The insertion of contemporary walls C126 and C127 created two rooms, R8-R9, in the east of the building, each measuring 3.7m in width (east-west) in the area originally undivided (R6). R8 measured at least 4.5m in length (north-south), and R9 measured 4.6m in length (north-south) assuming that the post-hole, 2628, was located at the extreme northeastern corner of the room. C126 was cut by three stake-holes, 2327, 2329 and 2502 (not illustrated), the only Structure 2 beam-slot to show this form of construction.

The second stage in the re-arrangement of the eastern part of the building involved the insertion of a north-south wall, C125, 0.7m to the east of C124, which may have gone out of use. C125 was cut into C126, which belonged to the first episode of internal re-arrangement. Assuming that C124 went out of use at this time, the effect of the second re-arrangement was to slightly reduce the width of R8-R9 from 3.7m to 3m. It is possible that the intention of this arrangement was to provide a narrow corridor, measuring 0.5m in width, assuming that C124 was not demolished at this time. It is not clear if C126 went out of use when C125 was inserted.

Other, later Phase 1D re-arrangements to the east of the building may be represented by beam-slot C133 and adjoining ditch C132. These features are cut on a different alignment to the Phase 1C (Structure 7) or Phase 1D (Structure 2) features, and were also slightly misaligned with each other. It is also possible that these features belonged to a Phase 2B layout, although this cannot be proven.

TABLE 3: Phase 1D internal features, dating

Structure	*Konstruct*	*Cut*	*Dating evidence*
2	C109 (W wall)	2550	Possible pre-Flavian samian. Pre-Flavian coarse ware
2	C113 (Internal wall)	2289	1st century coarse ware
2	C125 (Internal wall)	2298	1st century coarse ware
2	C119 (internal wall)	2426	1st century coarse ware
2	C118 (Internal wall)	2677	1st century coarse ware

3.3.7: Description of Phase 1C/Phase 1D internal features (Fig. 5)

The Phase 1C/Phase 1D features are those Phase 1 internal features which cannot be ascribed to either Phase 1C or Phase 1D. Within the left side of the *Praetentura* were excavated part of timber-framed building, Structure G, and a complex of industrial features in the western *intervallum* area. In addition, the western end of the *Via Principalis,* 1119, and a length of the western *Via Sagularis*, 1828 (Plate 8), were also

investigated. Within the left side of the Central Range were the innermost ditch of the *Via Sagularis*, C183, and an adjoining cluster of industrial features.

Praentura

A group of industrial features of industrial use were recorded immediately to the east of the *Via Sagularis*, 1828. The main features of this group comprised an oven, 1033 (Plate 9), a well, 1101 (Plate 10), and a further oven/hearth, 1471. These features apparently respected each other, although they are unlikely to have been in contemporary use. The sequence of use cannot be reconstructed, except that the earliest feature could have been the western terminal of an east-west aligned gully, 1643, which was cut by feature 1471.

The southernmost feature of this group was a well, 1101 (Plate 10), measuring 2m square in plan, with rounded edges. As excavated, the well measured a minimum of 2.72m in depth, although its base could not be reached for reasons of safety. The sides of the well were nearly vertical, and were probably originally lined with timber, although no trace of the lining had survived *in situ*. Four post-holes, 1794, 1796, 1798 and 1800, were recorded at the lowest excavated level of the well. In plan, these post-holes defined a rectangle measuring 0.5m (north-south), and 0.7m (east-west), which is considered too small to have represented the original lining of the well. It is possible that the post-holes related to a secondary re-use of the well, possibly to supply water for an industrial purpose (see below). The well was backfilled with a single homogenous deposit of brown sand-silt, 1100, flecked with charcoal, and containing pebble scatters throughout. This deposit probably represents the deliberate backfilling of the well, when it finally went out of use.

To the immediate north of the well was a rectangular oven, 1033 (Plate 9), its long axis aligned north-south. The oven measured 2.4m by 1m in plan. It was cut to a U-shape in profile, and measured a maximum of 0.4m in depth. The base of the feature was lined with clay, 1472 and 1187, burnt red-orange *in situ*. In the southwestern excavated quadrant of the oven this lining was sealed by a layer of yellow-brown sand-silt, 1473, representing a partial backfilling of the feature. Above was a lens of charcoal, 1243B, representing the firing of the structure, only recorded in this quadrant. This later was overlain by a layer of burnt orange-red clay-silt, 1243A, also recorded over the remainder of the feature, 1200, interpreted as the remains of the collapsed clay dome of the oven. Above were deposits of dark grey-brown silt-clay-sand, 1031, which accumulated after the disuse of the feature. The backfilled oven was cut by a stake-hole, 1098, and an adjoining post-hole, 1130. Traces of the eastern side of a further oven, 1153, was recorded to the west of 1033. Although 1153 was mostly cut away by a later feature, 1471 (see below) it appeared to be backfilled by red-brown clay, 1154, interpreted as the remains of the collapsed dome of the oven.

Oval pit 1471 (Plate 10) was cut through oven 1153 and gully 1643, and into the subsoil. 1471 measured 3m (north-south) by 1.5m (east-west). This pit was cut to a U-shaped profile, with near vertical sides and a slightly rounded base. It measured a maximum of 1.6m in depth. The sides and base of the feature were lined with clay, 1490, burnt red *in situ*. The base of the feature was backfilled with red-brown clay, 1537, overlain by a layer of red-brown clay, 1531, containing a quantity of roundwood fragments. This layer was sealed by redeposited subsoil, 1477, overlain by

a further layer of red-brown clay, 1476. In turn this was overlain by a further layer of redeposited subsoil, 1475, sealed by layers of red-brown sand-silt, 1474, 1528, 1527, backfilled into the surviving hollow of the feature, after its abandonment. This feature is interpreted as a possible quenching tank. The burnt deposits represents re-use of the remaining hollow of the feature for an industrial purpose. A north-south aligned gully, 1172 was cut through 1471, but was only recorded within the area of 1471.

The southernmost Phase 1C-1D building, Structure G, was located to the east of the *Via Sagularis*. This building appeared to have been slightly misaligned with Phase 1C and Phase 1D Structures 1-2 and 6-7 in the Central Range (see above), which may suggest it was not part of the original fort plan. The western end of Structure G was cut into a cobble surface, 1366 (not illustrated), which may have represented an area of hardstanding laid out on the eastern edge of the *Via Sagularis*. The remainder of the building was cut into the natural gravel, 1006. Only part of the ground-plan of Structure G was recorded in the extreme southwest of the area excavated. This east-west aligned building was represented by three slightly misaligned, roughly east-west aligned beam-slots, P133/P140, P134 and P136, recorded for a maximum distance of 8.6m. The northern wall of the building, P133 and P140 was formed by two beam-slots, separated by a gap measuring 0.1m. To the south was a single uninterrupted beam-slot, P134, cut 0.8m to the south of the north side of the building (measured centre to centre). These beam-slots presumably defined an east-west aligned corridor, R1, running along the excavated northern side of the building. Further to the south was another east-west aligned beam-slot, P136, defining the southern side of a room, R2, measuring a minimum of 1.5m in width (north-south), the southernmost excavated wall of the building. Traces of a north-south dividing wall, P135, were also identified to the south of P134, forming part of the western side of a further room, R3, almost wholly outside the excavated area. No other features associated with this building could be identified.

The Structure G beam-slots measured an average of 0.4m in width, and were cut to U-shaped profiles. They were backfilled with brown sand-silt, flecked with charcoal. External beam-slot P133 measured 0.3m in depth, whilst the internal beam-slots measured between 0.12-0.22m in depth, which supports the interpretation of P133 as the outer wall of the building.

The western end of the Structure G beam-slots, and pit 1432 were sealed by a resurfacing, 1166 (not illustrated) and presumed eastwards extension of the *Via Sagularis*, 1828, which sealed the westernmost 3.5m of the backfilled beam-slots.

A north-south aligned beam-slot, P143, was recorded for a distance of 1.5m to the north of P140, but the feature was not recorded as continuing within the building interior. The beam-slot was cut to a U-shaped profile, and measured 0.3m in width, and 0.05m in depth. Two post-holes, 1534 and 1536, located just to the north of the building could have been associated, together with two pits, 1432 and 1218, positioned further to the north.

Over the remainder of the *Praetentura* Roman features had been scoured-out by modern levelling-down for Vincent House.

Within the western *intervallum* features 1033, 1101, 1552 and 1471 contained a few charred cereal seeds.

Central Range

To the east of the western *intervallum* space was the north-south aligned eastern ditch, C183. The positioning, but not alignment of the ditch could suggest that it was associated with the *Via Sagularis* within the original Phase 1C-1D fort layout, assuming that this road extending into the Central Range. C183 was recorded for a total length of 21.5m, despite truncation by Phase 2B activity (see below). The centreline of C183 lay 13.2m to the east of the eastern edge of innermost ditch C176. The southern terminal of C183 was flush with the southern terminal of outer ditch C175, and with the northern side of the gatehouse, Structure B. C183 was cut to a gently-sloping U-shaped profile close to its southern terminus, with a V-shaped profile elsewhere. It measured a maximum of 1.2m in width, and 0.2m in depth. It was backfilled with dark brown clay-silt, containing pockets of charcoal flecking. No trace was found of the *Via Sagularis* pebble surface within the Central Range, although pebble inclusions within C183 probably derived from it. There was no surviving evidence of a western ditch to the *Via Sagularis*, which was located in an area which was heavily truncated by modern levelling-down. The natural ground-surface in this area was also more steeply-sloping, and may have been for this reason naturally free-draining.

A small group of industrial features were identified in the western *intervallum*, to the north of the entrance, and between the tail of the western rampart and the western *intervallum* ditch. These features presumably formed part of a later Phase 1C-1D arrangement, after the western *Via Sagularis* had gone out of use to the north of the *Via Principalis*. The westernmost feature of this group of industrial features, in the Central Range was a pit, 2060, backfilled with charcoal-flecked soil and containing a quantity of rounded pebbles, cut into the eastern edge of the rampart tail. The pit was cut by a single stake-hole, 2316. The eastern edge of 2060 was cut by the western side, C184, of a three-sided palisade trench, C184, C185 and C186. Part of the western, C184, southern, C185, and eastern sides, C186, of this arrangement were recorded within the excavated area. Its northern side was not recorded within the excavated area. As excavated, the palisade trenches defined an area measuring a maximum of 6m (north-south) by 2.5m (east-west; measured centre-to-centre). The palisade trench was cut to a U-shaped profile, and measured a maximum of 0.3m in width, and 0.2m in depth. It was backfilled with charcoal. A single post-hole, 2268, was cut into the eastern side of the feature.

The eastern side of the palisade trench, C186, was cut by an oval pit, 2003 (Plates 11-12), its long axis aligned north-south. It was cut to a U-shaped profile, and measured a maximum of 2.16m in diameter, and 1.60m in depth. Its primary fill comprised rounded (unburnt) cobbles set within grey sand-clay, 2038. Above was a layer of orange-grey sand-clay, 2031, flecked with charcoal. This deposit was sealed by a layer of black charcoal stained sand-clay, 2030, overlain by light grey-orange sand-clay, 2029. This was sealed by the uppermost backfill of the feature, a grey sand-clay, 2028, incorporating fragments of ash. The pit was cut by a single post-hole, 2037 (not illustrated). Immediately to the south was a further oval pit, 2068, although no relationship could be observed between the two features, which may be considered to

be contemporary, because of their similarity in morphology and backfills. 2068 was oval in plan, its long axis aligned north-south. It was cut to a U-shape in profile, and measured a maximum of 1.65m in diameter, and 0.26m in depth. Its primary backfill comprised a layer of rounded pebbles set within a grey-black silt-clay matrix, 2082, measuring 0.19m in depth. This was overlain by a shallow layer of orange sand-clay, 2081, infilling the remaining hollow within the feature.

Over the remainder of the Central Range Roman features had been scoured-out by modern levelling-down for Vincent House.

TABLE 4: Phase 1C-1D features, dating

Konstruct	*Cut*	*Dating*
Praetentura intervallum		
-	1033	1st century samian. 1st century coarse ware
-	1101	Samian before AD 85, 1st century, pre-Flavian. 1st century coarse ware
-	1471	1st century coarse ware
-	1552	Samian before AD 85
Central Range *intervallum*		
C183	2320, 2010	1st century coarse ware
-	2068	1st century coarse ware
-	2008	1st century coarse ware
Structure G		
P133	1417, 1421, 1612	1st century coarse ware
P134	1423, 1610	1st century coarse ware
P136	1440, 1602	1st century coarse ware
P140	1635	1st century coarse ware

TABLE 5: Phase 1C-1D features, metalworking debris

Cut	*Fill*	*Wt*	*Details*
1101	1100	54g	Burnt clay
1101	1100	2g	Hammerscale #
1101	1100	2g	Hammerscale #
2003	2005	1336g	Undiagnostic slag, vitrified clay (hearth bottom 75x60x50; 110x90x45mm)
2003	2008	270g	Undiagnostic slag, vitrified/burnt clay
2003	2013	287g	Possible hearth bottom (65x65x35mm)
2003	2028	139g	Undiagnostic slag
2003	2038	133g	Vitrified clay and charcoal fragments
2003	2005	188g	Burnt including vitrified clay
2003	2008	431g	Burnt/vitrified clay
2003	2029	104g	Burnt/vitrified clay
2003	2030	407g	Burnt/vitrified clay
2003	2031	62g	Burnt clay
2003	2005	6g	Hammerscale #
2003	2030	1g	Hammerscale #
2060	2075	130g	Undiagnostic slag, vitrified/burnt clay
2068	2067	85g	Vitrified clay
2068	2067	-	Hammerscale #

Key: # weight may include other metalworking residues

3.3.8: Interpretation of Phase 1C, Phase 1D and Phase 1C-1D features (Fig. 5)

Despite slight differences in alignment, the Phase 1C and Phase 1D buildings demonstrated an element of continuity in their layout, in particular between the eastern walls of Structures 1 and 6, and the western walls of Structures 2 and 7. These Phase 1D walls were also located slightly to the east of their Phase 1C counterparts. While the positioning of the western walls of Structures 6 and 1 was similar, no trace of a verandah could be recorded along the northern side of Structure 2. It is not clear if the slight re-positioning of the Phase 1D buildings to the east of their predecessors represented a re-planning of this part of the fort interior, also represented by the slight re-alignment of the buildings.

The function of Structures 1 and 6 clearly cannot be interpreted from a single wall. In some forts, however, store buildings are located within the central range (e.g. Wroxeter (Webster 2002, fig. 2.41), and it may be suggested that these buildings were used for storage, although this cannot be proved.

Little can be said about the internal arrangement of Phase 1C Structure 7 because only part of its western wall, and limited traces of its internal arrangement, C111, C114 and associated post-holes, were identified. By analogy with the positioning and arrangement of Phase 1D Structure 2, this similarly-sited Phase 1C building may also be interpreted as a *Principia* (see below), although this interpretation cannot be proven. Accordingly, the corridor measuring 1m wide between C111 and C114 could have represented the western ambulatory, in which case post-holes or post-pits 2527, 2531, 2471 and 2511 could have formed supports for the ambulatory roof. C105 has been interpreted above as representing the northern wall of the verandah. No other details of the Phase 1C building, or its other external walls could be identified at excavation.

Elsewhere in the Central Range (Area 20, Jones in preparation a), pits have been identified which pre-date the first formal fort layout. These features have been attributed to the construction phase of the fort. Possibly contemporary features have also been identified in the *Praetentura* (eg Area 14, Jones forthcoming a; Area 12, Jones forthcoming b), although in each case the remains of this earliest phase are ephemeral. Structures 6 and 7 may even represent the most substantial structures possibly belonging to this early, construction phase.

The *Principia* formed the administrative and religious focus of the fort (Johnson 1983, 104). It was generally located centrally within the fort, opposite the junction of the *Via Principalis* and the *Via Praetoria*, and facing the *Porta Praetoria,* at Metchley located to the east of Area 18. An average size of 30m by 25m for this building is suggested by Johnson 1983, 104). Structure 2 at Metchley only measured 15m in width, and was recorded for a length of 21m (north-south). The excavated part of the building comprised its northern end, which at Metchley did not appear to extend to the *Via Quintana* frontage to the north. The remainder of the building was probably located within parts of Area 18 where its shallow beam-slots had been scoured-out by extensive modern terracing.

The *Principia* generally comprised ranges of rooms laid out around a central courtyard. It was usually fronted by a portico or forehall which extended along the

frontage of the *Via Principalis*. Long halls or ranges of small rooms used for weapons storage usually flanked the two long sides of the building; at Metchley its eastern and western sides. Thus at Metchley the L-shaped room R1 could have formed a weapons store. R2, to the east, measuring 1.4m in width may have formed part of the west ambulatory. R3, still further to the east may have formed one of the rearward suite of rooms, often five in number, as at Metchley where the building was divided across its width into three rooms and two corridors. The central room would have contained the regimental shrine.

It is possible that the space later occupied by R3 and R4 formed an open hall, possibly the courtyard of the original building layout. Room R6 towards the eastern side of the building was originally undivided, and measured 4.2m in width. In contrast to the western side of the building, the possible eastern ambulatory, R7, immediately adjoined the outer eastern wall of the building.

The purpose of the later re-arrangement of the eastern side of the building was not clear. The apparent replacement of C129 with C127 would have the effect of broadening this space at the eastern end of the building. Equally, the presumed re-positioning of C124 (as C125) would have enlarged the width of the space originally occupied by rooms R3-R5. The southern walls of rooms R3-4, C116 and C122 were not continued to the join C125, and therefore it may be presumed that these divisions went out of use, creating a single, undivided space in this part of the building. Perhaps to compensate for the loss of this space divided up into rooms, a dividing wall, C126 was inserted between C125 and C127, sub-dividing the previously open space into two rooms.

An alternative interpretation and phasing of Structure 2 may be suggested. In this alternative part of the primary layout in the eastern half of Structure 2 (rooms R3-R7) may be attributed to Phase 1C, and the later re-arrangement of the building (insertion of rooms R8-R9) may be attributed to Phase 1D. This alternative is suggested by the similarity in positioning between Phase 1C and Phase 1D walls (e.g. C100 and C101; C107 and C108), which may be repeated by C124 and C125, as well as by C127 and C129, although in these latter the easternmost of the 'pair' is not necessarily the later of the two. This alternative phasing would imply that there were two, slightly different alignments used during the same phase, a hypothesis which cannot on present evidence be proven. Another possible interpretation of the changes in layout is that they reflected changes in layout caused by structural problems; it being easier to build a new wall in a timber-framed building on a new line, as opposed to repairing a 'failed' wall.

A further beam-slot, C133 and a ditch C132, were cut on different alignments to the east of Structure 2, neither following the Phase 1B alignment. These features are accordingly interpreted as part of late Phase 1B re-arrangement. It is also possible that they represented an early Phase 2B structural alteration. Within the *Praetentura* (Area 12, Jones forthcoming b) a ditch following a slightly different alignment was recognised to the east of a Phase 1 workshop.

3.4: Phase 2B (Fig. 4)

3.4.1: Summary of Phase 2B features (Fig. 7)

During Phase 2B the Phase 1B gateway, Structure B, and rear rampart supports were dismantled, but the remainder of the rampart, albeit reduced in width, was probably maintained, and the associated ditches continued to be cleaned-out. Evidence from elsewhere within the fort interior suggests that the Phase 1C-1D buildings were cleared in Phase 2B, preparatory to the layout of temporary structures. Within Area 18 the main Phase 2B features within the former *Praetentura* comprised three enclosures (Enclosures 1-3) defined by fence-slots, together with a group of industrial features cut into the Phase 1C-D *Via Sagularis*.

The main feature of this phase within the former Central Range was a large rectangular pit, C166, possibly used for ironworking. Two main concentrations of Phase 2B temporary structures, Structures 3 and 8 and Structure 4 were also identified, respectively to the northwest and southeast of Phase 1B Structure 2, which may at least partly have remained in use, or have been marked by an area of open storage or hardstanding (Fig. 5). The northwestern group comprised part of a building, Structure 3; an interrupted palisade trench, Structure 8, and a group of pits and post-holes. The southeastern group mainly comprised the northeastern angle of a timber-framed building, Structure 4, and also included other beam-slots cut following different alignments. The Phase 2B features were irregular in profile, and in plan, none exactly following the Phase 1C-D alignments. At the end of Phase 2B, the western Phase 1B double-ditches were backfilled, including material from the slighting of the rampart.

The Phase 2B features were cut through the Phase 1B features, and into the subsoil.

3.4.2: Description of Phase 2B entrance arrangements (Fig. 7)

The main Phase 2B entrance feature was a roughly rectangular building, Structure C, defined by post-holes, its main axis aligned east-west, positioned roughly centrally within the Phase 1B entrance. The post-holes were cut into the surface of the Phase 1B *Via Principalis*, 1119. The structure measured 3.5m in width and 7.5m in length. The western side of the building, defined by post-holes, 1240 and 1333, was roughly flush with the western edge of the innermost Phase 1B ditch, P116/C176. The northern side of the building was defined by three post-holes, 1240, 1313 and 1341, positioned at an average separation of 3.5m. 1313 and 1341 contained post-pipes (1315 and 1342 respectively). The southern side of the structure was also defined by three post-holes, 1333, 1335 and 1205, the two outermost of this group positioned approximately flush with the two northern corners of the building. The northern post-holes measured an average of 0.6m in diameter, while their southern counterparts measured a maximum of only 0.3m in diameter. A single post-hole, 1337, was positioned within the interior of the building, and closer to its eastern side. Post-hole 1339 was positioned flush with the eastern side of the building.

A further arrangement, measuring 5m in length, and positioned 2m to the south of the building was defined by three post-holes, 1207, 1192 and 1190. Post-holes 1337 and 1207 were approximately flush, presumably forming part of the same arrangement,

while 1190 projected 2m to the east of Structure C. These three post-holes may have been associated with a further post-hole, 1176, positioned 3m to the north. 1176 was cut into backfilled Phase 1B post-pit 1174.

Other Phase 2B entrance features which could not be related to Structure C comprised a shallow, irregular gully, roughly L-shaped in plan, P120, including two post-holes, 1195 and 1192, and a pit, 1112. 1195 cut the northeastern terminal of P120, and 1112 was cut through the western part of P120, and into the extreme northern terminal of ditch P116. P120 may have respected the alignment represented by post-holes 1207, 1192 and 1190. A single post-hole, 1251, adjoined 1112. To the east of 1112 was the northern terminal of a gully, 1114, its southern end apparently truncated by re-cutting of Phase 1B ditch P116. 1114 was cut to a U-shaped profile, and measured a maximum of 0.12m in depth. To the south was a single post-hole, 1273.

The westernmost Phase 2B feature within the entrance was a shallow, oval pit, 1036, cut through the Phase 1C-D *Via Principalis*, 1119, and into the subsoil, 1006. The pit measured a maximum of 2.8m in diameter, and 0.38m in depth. It was backfilled with grey-brown clay-silt-sand, 1029, flecked with charcoal. This pit could not be related to any contemporary structural arrangement. It could have been dug as a quarry pit, after the entrance went out of use at the end of Phase 2B, during the first Roman abandonment of the Metchley site.

No datable pottery was recovered from the Phase 2B entrance features, which are attributed to this phase based on the stratigraphic sequence, their morphology, and overall arrangement.

3.4.3: Interpretation of Phase 2B entrance arrangements (Fig. 7)

Phase 2B Structure C comprised a roughly rectangular single-celled building, its western and eastern sides open, presumably to facilitate the movement of traffic both in and out of the fort entrance. The southern wall of this structure may have been flimsy in construction, or the small postholes may only have supported a stub wall. This structure may be interpreted as a temporary gateway or guard-chamber. To the south of Structure C was positioned an east-west aligned fenceline, which may have been associated. Phase 2B post-hole 1176 was cut into backfilled Phase 1B post-pit 1174, which suggests that the earlier gatehouse was entirely cleared before Structure B was erected, although post-hole 1176 was not necessarily part of the same arrangement as Structure B. It is clear that the Phase 2B features represented a re-definition of the entranceway, and not its blocking. It has been suggested that a ditched 'funnel' was constructed in this period outside this western entrance, with the purpose of herding animals into the fort interior (Jones 2001). There are no published parallels from military contexts for Phase 2B Structure C at Metchley.

No *in situ* evidence survived for the Phase 1B rampart. A later suite of Phase 2B features (see below) encroached upon the line of the rampart, which may have been reduced in width within the *Praetentura*. Similarly, the removal of the post-pits forming the rearward revetment of the Phase 1B rampart (see below) within the Central Range will have reduced the rampart in width.

3.4.4: Description and interpretation of the Phase 2B backfilling of the Phase 1B defences (Fig. 7; not illustrated in detail)

To the south of the entrance the primary backfill of P116 was an orange-brown silt-sand, 1032 containing quantities of large cobbles. This was overlain by orange-brown silt-sand, 1026 interspersed with lenses of charcoal. Above was a layer of dark brown silt-clay, 1021, containing quantities of charcoal and large rounded cobbles, sealed by a layer of light yellow-orange silt-sand, 1017, interpreted as collapsed rampart material. Close to the ditch terminal, 1027, the quantities of charcoal and cobbles within the ditch fills increased. No Roman backfills were recorded in outer ditch P117, because it was only partly excavated.

To the north of the entrance innermost Phase 1B ditch, C176, was backfilled with red-brown sand-silt, 1054, overlain by a waterlogged layer of grey clay, 1052, containing a quantity of rounded cobbles. Above was a layer of light grey clay, 1037, the uppermost recorded Roman backfill of the ditch. No Roman backfills were recorded within outermost ditch C175 which was only partially excavated.

TABLE 6: Phase 2B backfills of Phase 1B defences, dating

Konstruct	*Cut no*	*Dating evidence*
P116	1027	Neronian-early Flavian; Neronian or Flavian; 1st century samian. Neronian-Flavian, 1st century coarse wares
C116	1038	Pre-Flavian samian; pre-Flavian coarse wares
C116	1018	1st century; AD 50-75 coarse wares
C1116	1208	1st century coarse wares

No Phase 2B backfills of the Phase 1B outer fort ditches were excavated. The Phase 2B backfills of Phase 1B ditch P116 contained a few charred cereal seeds.

TABLE 7: Phase 2B backfills of Phase 1B features, metalworking debris

Konstruct	*Cut*	*Wt*	*Details*
P116	1018	505g	Slag and hearth bottom (85x70x35)
P116	1018	81g	Burnt clay
P116	1027	1g	Hammerscale #
P116	1027	1g	Hammerscale #

Key: # weight may include other metalworking residues

3.4.5: Description of Phase 2B internal features (Fig. 7)

The Phase 2B internal features in the former *Praetentura* are described first, followed by the contemporary features in the former Central Range. Despite the apparent abandonment of the standard fort layout in this phase, these two areas remained physically, if not functionally distinct, being separated by the *Via Principalis*, which continued in use.

Former *Praetentura*

A group of features, predominantly of suggested industrial function, were located between the projected rear of the western rampart, and in the area of the Phase 1C-D *Via Sagularis*, marking its abandonment.

The northernmost of this Phase 2B *intervallum* feature group comprised a roughly east-west aligned beam-slot, P149, only recorded for a length of 0.8m, probably because of extensive modern disturbance. Further to the south were two roughly north-south aligned beam-slots, P147 and P148, cut on slightly different alignments. Their point of their projected intersection had been scoured-out by a modern disturbance (not illustrated). The beam-slots were cut to U-shaped profiles, and measured an average of 0.2m in width, and 0.1m in depth. They were backfilled with grey-brown silt-clay. Further to the west was a roughly circular pit, 1077, measuring approximately 2m in diameter. It was backfilled with dark brown silt-clay, 1062, flecked with charcoal. An east-west aligned beam-slot, P150, cut through backfilled pit 1077, was recorded to the west of P148. Only a fragment of the structure formed by these beam-slots could be identified, and no overall building plans could be discerned. P150 was cut by a circular pit, 1079.

Nearby were recorded three circular, or oval pits, 1063, 1065 and 1073. 1065 was cut into backfilled P148. These pits measured an average of 1.5m in diameter, and only 0.8m in depth, probably as a result of severe modern truncation. The pits were backfilled with dark brown silt-clay. A group of post-holes to the west of this pit group, 1121, 1350, 1089 and 1294 may have been associated. Two of this post-hole group, 1294 and 1089, contained post-pipes measuring approximately 0.2m in diameter. To the north of 1073 was located the rounded eastern terminal of an east-west gully, 1155. This could not be related to other adjoining Phase 2B features, because of disturbance by a modern drain. 1155 'contained' two small cuts, 1133 and 1132, aligned north-south (not illustrated). 1155 was backfilled with red-brown sand-silt, 1156. The function of 1155, 1133 and 1132 is not known.

To the south of P150 was a group of further features of industrial function, cut within the former *intervallum* area. The northernmost of this feature group, 1185, comprised a hearth with an associated oval firing chamber to the east. The hearth measured a maximum of 2m in diameter, and 0.15m in depth. The hearth and firing chamber were backfilled with dark grey silt-sand, 1163, flecked with charcoal. To the south was a circular pit, 1161, measuring 1m in diameter, and backfilled with burnt red silt-clay-sand, 1129, with an adjoining small circular hearth, 1257. A group of hearths or ovens, 1222, 1124 and 1151, were located further to the south. This feature group was backfilled with dark brown silt-clay, flecked with charcoal.

In the southern excavated part of the western *intervallum*, following the dismantling of Phase 1C-1D Structure G, and abandonment of the contemporary *Via Sagularis*, a surface of small rounded pebbles set within a matrix of clay-sand-silt, 1274 was laid out (not illustrated). This sealed Phase 1C-D layer 1166 and backfilled beam-slots P150 and P147. 1274 may be interpreted as a temporary hardstanding.

Within this southwestern part of the excavated area the Phase 2B remains comprised an arrangement of irregular fence-slots defining parts of three enclosures, Enclosures 1-3. The southwestern angle of the northernmost of these enclosures, Enclosure 1, was recorded within the excavated area. The position and alignment of the western side of the enclosure, P141, respected the eastern edge of the Phase 1C-D *Via Sagularis*, 1119 (Fig. 5). The western fence-slot, P141, cut into the natural subsoil, 1008, was recorded for a length of 7m. It was dug to a U-shaped profile, and

measured an average of 0.2m in width, and 0.1m in depth. It was backfilled with grey-brown silt-clay. Traces of re-cutting were also recorded along its length. The irregular southern fence-slot of the enclosure, P131, was recorded for a distance of 8m. Its excavated eastern end was truncated by a Phase 3-4 ditch (see below). P131 was cut to a U-shaped profile, and measured a maximum of 0.5m in width, and 0.34m in depth. It was backfilled with grey-brown silt-clay. No traces of stake-holes could be recorded along the excavated part of this side of the enclosure.

A number of features were located within the southwestern angle of Enclosure 1. Just inside the western side of the enclosure was a group of stake-holes, 1318, representing part of a wattle fence. To the east of P141 were three intercutting post-holes, 1375, 1377 and 1068. 1375 cut 1377, and 1068 cut 1375. The post-holes measured an average of 0.2m in diameter, and were backfilled with dark grey-brown silt-clay. These post-holes may have defined the southern side of an entry-gap within the western fence-line of Enclosure 1, the same feature being defined internally by 1318, and externally by 1320 and 1322 (see below). The easternmost excavated internal feature was a post-hole, 1351. The largest two features within this group were two pits, 1203 and 1343. Both were very truncated, and backfilled with red-orange clay. Between the two pits were two stake-holes, 1401 and 1403, which may have formed part of an associated structure such as a temporary shelter.

Immediately adjoining part of the western side of Enclosure 1 was a short length of a beam-slot, or a fence-slot, 1320. Just to the south of the latter was a line of stake-holes, 1322, presumably forming part of a wattle fence. Both respected the position and alignment of the western side of Enclosure 1, and of 1318. These features were positioned flush with the angle between the western side of the enclosure and a possible stub-wall, also defined by pots-holes 1375, 1377 and 1068.

Part of the northwestern corner of Enclosure 2 was recorded in the extreme southwest of the excavated area. It was cut following the same alignment as Enclosure 1, and the western sides of both enclosures were approximately flush. The northern side of Enclosure 2, P139, aligned east-west, was formed by a fence-slot cut to a U-shaped profile, measuring a maximum of 0.7m in width, and 0.3m in depth. The gully was cut through backfilled beam-slot P136 belonging to Phase 1C-1D Structure G, and into the subsoil, 1006. P139 was backfilled with brown sand-silt. The western terminal of P139 was truncated by a re-cut, P137. A possible entry-gap in the northwestern angle of the enclosure was 'closed' by two pits, 1590 and 1608. Pit 1608 was cut into re-cut P137, and pit 1590 was cut into backfilled pit 1608. The pits measured an average of 1.10m in diameter, and 0.3m in depth, and were cut to a U-shaped profile. They were backfilled with grey-brown sand-silt.

The northwestern corner of a further enclosure, Enclosure 3, defined by a curving fence-slot, was recorded between Enclosures 1 and 2. The northeastern terminal of the northern side of Enclosure 3, P132, was cut into backfilled Enclosure 1 fence-slot P131, and into the subsoil, 1006. The western fence-slot of Enclosure 3 was cut through the backfilled beam-slots P133 and P134 belonging to Phase 1C-1D Structure G (not illustrated), and into the subsoil. The southern terminal of P132 lay 2m to the north of Enclosure 2 with which it may have been contemporary. On this assumption, the gap may have formed an entrance. The Enclosure 3 fence-slot measured a maximum of 0.5m in width, and 0.25m in depth, and was cut to a U-shaped profile. It

was backfilled with brown sand-silt. The only possibly contemporary feature within the Enclosure 3 interior was a short length of a north-south aligned gully, P138, which adjoined the eastern terminal of P132, but could not be related to any other feature. A single post-hole, 1541, and an adjoining stake-hole, 1543, cut 1.5m to the north of the fence-slot terminal were the only survivors of a possible entrance structure.

A Phase 2B pit, 1383, and a post-hole, 1385 was cut into the subsoil, were located outside the southwestern corner of Enclosure 1.

Enclosure 1 (and possibly the other enclosures) represents an arrangement of the fort interior within which the Phase 1C-D *Via Sagularis* could have at least partly continued in use. In contrast, a presumably later episode of Phase 2B activity may be represented by a number of features, predominately post-holes and beam-slots, cut into the Phase 1C-D *Via Sagularis*, 1119, representing its abandonment. One of the earliest of the Phase 2B features cutting this road was a north-south aligned beam-slot, P144, recorded for a distance of 5.5m. It measured a 0.2m in width, and 0.01m in depth, and was backfilled with grey-brown silt-clay, 1170, flecked with charcoal. The beam-slot clearly respected the western side of the Phase 2B Enclosure 1, located 2m to the east.

In contrast, the remaining Phase 2B beam-slots in this area did not appear to follow the same alignment. P144 was truncated by beam-slot P145, cut following a slightly curvilinear, but different, roughly north-south alignment, and recorded for a distance of 6.5m. It was cut by a pit, 1216, backfilled with dark brown clay-silt, 1215. The southern end of P145 was cut by a further, mainly north-south aligned beam-slot, P146, also recorded for a total length of 6.5m. It contained a single post-hole, 1347. The southern terminal of P146 was formed by a pit, 1144, lined with stone, cut by a post-hole, 1456.

To the west of P145 and P146 was a roughly north-south line of stake-holes, 1090, 1092, 1094 and 1096, the northernmost three of which were positioned at a separation of 0.6m. A further possible stake-hole positioned between 1092 and 1090 may be suggested, which may have been scoured-out by modern disturbance. These stake-holes presumably defined the line of a wattle fence, recorded for a maximum length of 3m. The fence followed a slightly different alignment to the other features attributed to this phase. Other post-holes, 1484, 1486, 1167 and 1324 in this area could not be related to any coherent building plans. 1167 was cut into P144, presumably after its abandonment.

Features 1075 and 1133 in the western *intervallum* and P132 (Enclosure 3 fence-slot) contained a few charred cereal seeds.

TABLE 8: Phase 2B features in former *Praetentura*, dating

Konstruct	*Cut*	*Details*	*Dating*
***Intervallum* features**			
P147	1045	Beam-slot	1st century coarse pottery
-	1133	Beam-slot	Pre-Flavian samian
-	1063	Pit	Pre-Flavian samian
-	1065	Pit	1st century coarse pottery
-	1073	Pit	Samian AD 40-60
-	1077	Pit	1st century coarse pottery
-	1079	Pit	1st century coarse pottery
-	1121	Pit	1st century coarse pottery
-	1122	Hearth	1st century pottery
-	1144	Stone-lined pit	1st century pottery
-	1161	Hearth	1st century samian
-	1167	Post-hole	1st century coarse pottery
-	1185	Oven	1st century coarse pottery
-	1216	Pit	1st century coarse pottery
P145	1242, 1270	Fence-slot	1st century coarse pottery
-	1294	Post-hole	1st century coarse pottery
Enclosure 1			
P141	1066, 1157	W side of enclosure	Pre/early Flavian samian, 1st century coarse pottery
-	1068	Internal post-hole	Claudio-Neronian samian
-	1203	Internal pit	1st century coarse pottery
P131	1230, 1248, 1288, 1604, 1614	S side of enclosure	Pre-Flavian samian. 1st century coarse ware pottery
-	1322	Fence-slot adjoining E1	1st century coarse pottery
-	1375	Associated E1	Neronian-early Flavian coarse pottery
-	1385	Outside E1	1st century coarse pottery
Enclosure 3			
P132	1143, 1259, 1541	W side of enclosure	Claudio-Neronian samian. 1st century coarse pottery
P138	1282	Gully associated E3	1st century coarse pottery

TABLE 9: Phase 2B features, metalworking debris

Konstruct	*Cut/fill*	*Wt*	*Details*
P143	1143	342g	Undiagnostic slag
P145	1270	1379g	slag, possibly smithing slag, vitrified clay
1590	18g		undiagnostic slag
C166	2208/2135	5g	Vitrified clay
C166	2208/2136	540g	Vitrified possible hearth lining
C166	2208/2136	508g	Vitrified clay and undaignostic slag and hearth bottom (100x70x30)
C166	2208/2136	423g	Vitrified clay possible hearth lining
C166	2208/2136	837g	Vitrified clay, hearth lining
C166	2208/2138	272g	Burnt clay
C166	2208/2138	36g	Hammerscale #
P132	1143/1217	4g	Hammerscale #

Key: # weight may include other metalworking residues

The metalworking residues suggest the area was used for small-scale smithing, including the forging and repair of tools and weapons.

Former Central Range

Western intervallum area

To the north of the entrance, but still within the western *intervallum* area, the Phase 1B timber supports at the rear of the Phase 1A/B rampart (not illustrated) were removed. The possible western Phase 1A/1B *Via Sagularis* went entirely out of use, and this area was encroached upon by Phase 2B features, including ditches and hearths.

The largest single Phase 2B feature was a massive rectangular pit, C166 (Plates 12-15), measuring a maximum of 9m (north-south), and 5.5m (east-west). This feature was cut through the presumed continuation of the possible Phase 1C-D *Via Sagularis*, to the north of the *Via Principalis,* and into the subsoil. The pit base was irregular, measuring between 0.5m and 0.9m in depth. It was cut following the north-south alignment of the Phase 1A/1B fort. Its western side truncated Phase 1A/B post-pits 2378 and 2518 (Fig. 5), and its eastern edge was cut into the backfilled Phase 1C-1D western ditch, C183, of the *Via Sagularis* (Fig. 5). The Phase 2B pit was located within an area used for ironworking in the Phase 1C-D fort. Its eastern side was irregular, as a result of re-cutting, but the other sides of the feature were comparatively regular in plan. The northwestern corner of C166 was rounded, and slightly enlarged, probably as a result of the periodic cleaning-out of the feature. The northern and western edges were vertically-cut, while the remaining sides were less steeply-cut, and were dug to a stepped profile. A post-hole, 2222, cut to the south of C166, and three post-holes, 2276, 2278, and 2280, cut to the north of the feature, could have been associated.

The sequence of backfills (not illustrated) within C166 was complex. The earliest backfill of the feature comprised a yellow clay-sand, 2211, interpreted as redeposited subsoil, overlain by a layer of light grey-brown silt, containing patches of charcoal. Above was a deposit of large rounded cobbles (Plate 14), set in a matrix of black charcoal-rich silt, containing patches of burnt clay, 2206, sealed by a dark brown-black charcoal-rich silt, 2212. This was overlain by a layer of yellow-brown silt-sand-clay, 2201, sealed by a layer of light brown-yellow silt-clay, 2168, flecked with charcoal. This was sealed by a light brown clay-silt, 2192, overlain by a black silt, 2135, stained with charcoal, forming the uppermost backfill of the feature. Within this sequence it is possible that layers 2211, 2201 formed a lining within the feature. The remaining deposits could represent the *in situ* firing of the feature for an industrial purpose.

Pit 2272 was cut into the centre of backfilled C166. The full size and profile of 2272 could not be identified because of disturbance by a post-medieval cut (not illustrated). 2272 was backfilled with grey-brown silt-clay, 2311, sealed by dark grey-brown silt-clay, 2270, overlain by brown-orange silt-clay, 2271. Other features cut into C166 comprise a post-hole, 2195, and three oval pits, 2219, 2314 and 2315.

After C166 and 2272 were partially backfilled, a further pit, 2373 was cut through its western edge, and into the natural subsoil. 2373 was cut to a U-shaped profile, and measured 1.80m in diameter, and 1.04m in depth. It was backfilled with silt-clay-sand, 2382, sealed by brown clay-silt, 2310, overlain by a charcoal-rich silt, 2215.

Above was a dump of rounded pebbles set in charcoal-rich silt, 2243, overlain by a black silt, 2244. This was sealed by a layer of dark brown silt, 2216, sealed by brown sand-silt, 2214.

The eastern side of backfilled C166 was cut by the western terminal of an L-shaped ditch, C182, which was mostly roughly aligned east-west, and extended for a distance of 9m to the east of C166. Immediately to the south of the ditch was a post-hole, 2404, with two further post-holes, 2140 and 2142, located further to the south. Close to the eastern terminal of C182 was a gully, C170, L-shaped in plan, its northern terminal cut by a small hearth, 2384.

To the north of C183 was a further, roughly parallel ditch, C186, recorded for a distance of 6.5m. The excavated eastern terminal of C186 adjoined a small pit, 2167, and the eastern terminal of a gully, C181.

A few charred cereal seeds were recovered from pit C166, probably representing no more than background debris.

TABLE 10: Phase 2B Central Range features, dating

Konstruct	*Cut*	*Details*	*Dating*
C182	2024	W-E ditch, *intervallum*	1st century coarse pottery
C166	2208	Large irregular pit	Samian: 1st century, Pre-Flavian, Neronian-Early Flavian, AD 50-75, AD 50-70, Neronian-Flavian. 1st century coarse wares

The northern group of structures in the former Central Range

Two further groups of Phase 2B features were located in the northern excavated part of the former Central Range, separated by an area of possible hardstanding, or where Phase 1C-1D Structures 6-7 which may have survived.

The northwestern group of features comprised beam-slots, and possibly associated features. A fragment of the north-south aligned beam-slot, C102, was identified, which probably formed part of the eastern wall of a timber-framed building, Structure 3. The other three sides of the building lay outside the excavated area, or outside the area of good archaeological survival. C102 was recorded (discontinuously) for a length of 6.5m, and terminated to the south in a rounded butt-end. An adjoining post-hole, 2649, may have further defined one side of an entry-gap. C102 was joined by a fragment of an east-west aligned beam-slot, C151, forming the eastern end of an internal division within the building. C102 was cut to a U-shaped profile, and measured an average of 0.35m in width, and 0.2m in depth. Internal dividing wall C151 was less substantial, measuring 0.2m in width, and only 0.12m in depth. A post-hole, 2618, was located at the junction between C102 and C151. The beam-slot backfills comprised brown-grey sand-silt.

A shallow, north-south aligned palisade trench, C103, C104 (Structure 8), interrupted by an entry-gap measuring 0.5m in width, was recorded 1.5m to the east of the eastern side of Structure 3. The palisade trench was recorded for a total distance of 10.5m in length. It was slightly sinuous in plan, and it measured an average of 0.4m in width, but only 0.06m in depth. It was backfilled with grey-brown sand-silt, with orange

mottling. The southern terminal of C103 was cut by a stake-hole, 2604, and two post-holes, 2608 and 2610, were cut towards the northern terminal of C104. Two stake-holes, 2693 and 2695, and an adjoining post-hole, 2685, cut to the west of the palisade trench, and positioned flush with the northern terminal of C104 could have been associated with this palisade trench. Also to the west of Structure 8 was a single post-hole, 2687, positioned flush with the southern terminal of C103.

Other Phase 2B features in this northwestern group comprised two large pits, 2632 and 2467, and a small pit, 2612. 2467 may have been associated with three adjoining post-holes, 2653, 2651 and 2649. 2632 was 1.4m in diameter and 0.46m in depth, and was backfilled with redeposited subsoil interspersed with charcoal lenses. It was cut by a single stake-hole, 2634. 2467 was roughly circular in plan, measuring 1.5m in diameter and 0.23m in depth. The pit was backfilled with brown-black charcoal rich silt. A short length of a northwest-southeast aligned beam-slot, C106, the only example of this alignment, could not be related to any other feature of this phase.

The northeastern group of Phase 2B features mainly comprised east-west aligned beam-slots, which were notably irregular in plan, similar in form to the structures in the presumably contemporary northwestern feature group.

The main Phase 2B feature in this group was the northeastern angle of a building, Structure 4, defined by the discontinuous beam-slots forming part of its northern side, C146 and C128, and a short length of its eastern side, C134. The remaining sides of Structure 4 lay outside the excavated area, or outside the area of good archaeological preservation. As excavated, the northern side of the building measured 13m in length, and the eastern side of the building 2.8m in length. An entry-gap measuring 3m in width was recorded along the northern side of the building, and a second entry-gap, measuring 1.5m in width, at its northeastern corner. C128, forming part of the northern side of the building adjoined the southern terminal of C127 belonging to Phase 1B Structure 2, as defined by a post-hole, 2628. C134, the eastern side of Structure 4, was cut alongside Structure 2 beam-slot C132. The Structure 4 northern beam-slots measured an average of 0.5m in width, and 0.24m in depth, and were backfilled with orange-brown silt-clay. The eastern beam-slot, C134, measured 0.47m in width and 0.45m in depth, and was backfilled with grey silt-clay.

A beam-slot, C144 was recorded 1.5m inside the northern side of the building (measured centre-to-centre), together with a fragment of a, adjoining beam-slot, C145, which may have been associated with an adjoining stake-hole, 2646. C144 and C145 were cut on a slightly different alignment to the northern wall of the building. An elongated oven, 2273, measuring a maximum of 1.1m in diameter cut in the northeastern entry-gap, and truncated the northern end of beam-slot C134, which presumably marks the abandonment of the building. The oven was backfilled with red-orange burnt clay.

A later episode of Phase 2B activity is represented by beam-slots and other features cut following a northeast-southwest alignment, and characterised by backfills containing large quantities of charcoal and burnt clay. Parallel, but irregularly-shaped beam-slots C141 and C142 were cut into the subsoil in the northern entry-gap of the presumably abandoned Phase 2B Structure 4. C141 and C142 each measured 1.8m in length, 0.37m in width and 0.07m in depth. The beam-slots were backfilled with

black-red silt-clay, flecked with burnt clay and charcoal. Two further adjoining beam-slots, C143 and C150, following the same alignment were recorded further to the northwest, the former terminating in a pit, 2465, backfilled with grey-black silt-clay. Fragments of two further beam-slots, C147 and C137 were also recorded, to the north, and south, respectively, of the building.

A fragment of a single beam-slot, C131, following a different, southwest-northeast alignment may also be attributed to this phase. A pit, 2300, possibly forming an oval shape in plan was also identified. This latter was the only Phase 2B feature identified within the interior of any of the Phase 1A/1B buildings in the Central Range.

Possibly the latest Phase 2B event in the fort interior was the deposition of a layer of charcoal-rich dark grey-brown charcoal stained silt-clay, 1415 (not illustrated), interpreted as a destruction deposit, preserved beneath the Phase 3 rampart, 1460 (not illustrated). 1415 was not recorded extensively within the fort interior, because of later Roman, and more recent disturbance.

3.4.6: Interpretation of Phase 2B internal features (Fig. 7)

No Phase 2A features could be identified, although some of the later Phase 1D (or even Phase 1C-1D) features could possibly be attributable to Phase 2B. The Phase 2B beam-slots in Area 18, as elsewhere within the fort interior were easily distinguishable from those of preceding Phases 1A/1B by their individual irregularity in plan and profile, as well as by their irregular layout overall.

Former Praetentura

The earliest sub-phase of features associated within the military stores depot probably comprise the three enclosures, defined by fence-slots. These may have been laid out to the immediate east of the Phase 1C-D western *Via Sagularis*, which may have continued in use. These enclosures may have formed livestock pens, an interpretation in particular suggested by the possible entrance at the southwestern angle of Enclosure 1, and the contemporary livestock pens within the former *Retentura* (Jones 2001, fig. 17). Some of the adjoining beam-slots (e.g. P144-P146) could have been associated with these enclosures. Some of the post-hole alignments in this part of the military stores depot (e.g. 1090-1096) could have represented elements of the fences of other livestock enclosures.

Other Phase 2B activity within the former *Praetentura* may be represented by the pits and industrial features located within the area of the Phase 1C-D western *Via Sagularis*, and extending into the area of the rampart of the Phase 1B fort.

The overall sequence of Phase 2B in this area is difficult to establish. Industrial pit 1144 was cut into the terminal of beam-slots P145-6. Another beam-slot, P148, both cut and was cut by pits of suggested industrial function. Beam-slot P145 contained a particular large quantity of ironworking slag (Table 9), but other features in this group contained little or no ironworking debris. A group of hearths (e.g. 1185, 1122/1124) may represent continuity in use of the Phase 1B *intervallum* area for an industrial function, possibly breadmaking. The charred seeds found in 1075 and 1133 in the western *intervallum* may support this interpretation. Within the former *Retentura* the

earliest Phase 2B features comprised timber-framed buildings, succeeded by hearths/ovens, in turn replaced by fenced livestock compounds.

Former Central Range

The largest single Phase 2B feature in the former Central Range was pit P166. This feature, along with the dismantling of the Phase 1B rearward rampart post-pit supports indicates that the Phase 1B rampart was reduced in width in Phase 2B, and the *Via Sagularis*, already encroached upon by the end of Phase 1C-D by pits 2003 and 2068, will have gone out of use. The evidence for function of Phase 2B is enigmatic. The positioning of the feature within the western *intervallum* would suggest an association with breadmaking or ironworking, although the increasing body of evidence from the Phase 2B military stores depot suggests that conformity with the standard Roman fort plan is not be expected in this phase. There was no evidence for the burning of the sides of P166 *in situ*, nor for the heating of the large quantities of cobbles found within the pit which might be associated with high temperature processes. The small quantity of charred plant remains represents no more than a background scatter, and does not help to interpret the function of the large feature. The quantities of charcoal contained within the pit, and the metalworking debris recovered from within it (Table 9) could suggest it was associated with ironworking. The metalworking debris included fragments of hearth bottom, slag, burnt clay and hammercale deriving from smithing. It is also possible that these metalworking debris could have been derived from ironworking elsewhere in the Phase 2B military stores depot.

Too little of Structure 3 was identified to be able to interpret its function, although its eastern side was divided (by C151) into two rooms. This side of Structure 3, and adjoining palisade trench, Structure 8, were cut into the accessway retained between Phase 1A/1B Structures 1 and 3 to the west and Structures 2 and 5 to the east. As such they represented one of several changes in overall fort layout within the Phase 2B military stores depot (Jones 2001, 42-54). Together with the evidence from Area 20 (Jones 2005) located on the right side of the former Central Range the Area 18 Phase 2B features demonstrate that the irregularly-laid out and temporary structures associated with the military stores depot extended within the former Central Range.

Phase 2B Structures 3 and 8 could not be directly related stratigraphically. As noted above, the line of stake-holes and post-holes within the interior of Structure 3 were flush with the entry-gap within the palisade trench, Structure 8. Assuming this was correct Structure 8 may post-date the abandonment of Structure 3. The less likely alternative is that the two structures were contemporary, in which case Structure 8 would have formed the outer wall of the Structure 3 verandah. The apparent misalignment between Structures 3 and 8 would be expected in the context of the military stores depot, where regular layouts were not maintained, and temporary buildings were cut following irregular layouts (e.g. Jones 2001, 42-54; Jones in preparation a).

The northeastern corner of Structure 4 was the other Phase 2B building identified. The only detail of its presumed internal layout were the two east-west aligned beam-slots, C144 and C145. Although only recorded for a short distance because of recent disturbance, it is possible that they represent the inside of a corridor or verandah

positioned along the northern side of the building. Such an interpretation might strengthen the evidence for the association of Structure 4 with Structures 3 and 8 in the northwestern part of the excavated area. Verandahs are a common feature of barrack-blocks, but such an interpretation of the Phase 2B buildings in the left side of the former Central Range would be no more than speculation.

In both areas, later Phase 2B activity was represented by features backfilled with burnt clay or charcoal. Pits and beam-slots backfilled with charcoal and burnt clay were identified cut into the area of the disused northern entry-gap of Structure 4, and a further pit belonging to this group, 2273, cut the northern end of the eastern wall of this building. Pits 2632 and 2467 were cut into, or adjoining the eastern wall of Structure 3. These pits also provide the first evidence for the spread of industrial processes into the Phase 2B former Central Range, together with the spreads of burnt clay recorded in Trench B2 to the east (Jones 2005, 102). In the *Retentura* (Jones 2001, 50) the irregular Phase 2B buildings were succeeded by a group of industrial features, the same sequence of episodes of Phase 2B activity as recorded in Area 18. By contrast, The latest Phase 2B episode in the *Retentura*, the layout of wattle fenced structures (also recorded in the former *Praetentura*, see above), was not represented within the former Central Range, and may indicate a 'zoning' of the military stores depot interior for different uses, although this is not possible to prove.

With only one exception, 2300, a pit, the Phase 2B features are located outside the footprints of Phase 1A/1B Structures 5 and 2. In particular, the northern side of Structure 4 adjoins the southern terminal of Phase 1B beam-slot C127 and its associated post-hole, 2628. This arrangement could suggest that the Phase 1D building was partly demolished prior to the construction of Structure 4. The eastern side of this building also immediately adjoins beam-slot C133 attributed to the Phase 1 building. Phase 1B beam-slots C133 and C132 in the east of Structure 2, which follow a slightly different alignment to the remainder of the building have been attributed to a later re-arrangement, although it is also possible to argue that the beam-slots may be attributed to Phase 2B. The almost total lack of Phase 2B features within the interior of the Phase 1C/1D buildings could suggest that the earlier buildings were retained within the military stores depot. Alternatively, the area of the earlier buildings could have been laid out as hardstanding. Neither interpretation can be proven. By contrast, the Phase 2B structures within the former *Retentura* (Jones 2001, 42-54) were often formed by a re-excavation of the earlier Phase 1 beam-slots. This re-excavation was argued to suggest that the demolition of the Phase 1 buildings and the erection of their Phase 2B successors was part of the same single operation, carried out under military control.

3.5: Phase 3 (Fig. 4)

3.5.1: Summary of the Phase 3 features (Figs. 8-9)

A length of the western Phase 3 fort defences, including the *Porta Principalis Dextra*, flanked by a guardchamber (Structure 9) to the north, and an outer palisade trench, were recorded within the excavated area. The Phase 3 ditch was partly dug away by later Phase 3 and Phase 4A (see below) re-cutting along its length, while to the north of the entrance it was particularly heavily truncated by modern levelling-down. Towards the middle of the Central Range part of a timber-framed granary (Structure

5) was the only building identified. A large part of the Phase 3 fort western *intervallum*, and the adjoining area within the left side of the Central Range was heavily scoured-out by modern activity, and no features survived. An area outside the Phase 3 western defences was also investigated by excavation.

3.5.2: Description and interpretation of the Phase 3 defences (Figs. 8-9)

A total length of nearly 60m of the Phase 3 western fort defences were investigated within Area 18, including the Phase 3 *Porta Principalis Dextra*, first slit-trenched by St Joseph and Shotton (1937). Although not all of the southern entrance terminal could be exactly located because of modern disturbance, the entrance was probably approximately 10m wide. To the south of the entrance the western Phase 3 ditch, P123 (Plate 16), was cut to a stepped profile, with a basal cleaning-slot. The full profile was not recoverable because of Phase 4 re-cut (see below), but the Phase 3 ditch survived to a depth of 0.6m and a width of 2.4m. It was backfilled with orange-brown sand-silt, 1295.

A north-facing perimeter section (Fig. 9.S.1, Plate 17) provided the only details of the Phase 3 rampart which had been entirely scoured-out preparatory to the construction of Vincent House within the excavated area. A post-pit, 1809, measuring 0.4m in depth and a maximum of 0.9m in diameter was cut into the subsoil (1008) towards the centre of the rampart. A further post-pit, 1816, was recorded cutting the natural subsoil towards the outer face of the rampart. The subsoil and backfilled post-pit 1809 were sealed by the rampart, P121, which was recorded for a width of 5.8m. It is unlikely that this represented the full width of the rampart, since a modern disturbance, 1823 (not illustrated), was recorded truncating its eastern face, along with a Phase 3-4 gully (1709, see below). The inner face of the rampart comprised orange-brown sand, 1802, which overlay the natural subsoil. The earliest rampart deposit towards the outer face of the rampart comprised a layer of grey-brown silt-sand-clay, 1812, which measured a maximum of 0.4m in depth, and which also overlay the subsoil. 1802 was sealed by a layer of grey-brown silt-sand-clay, 1824, containing pebbles. In turn this deposit was overlain by a layer of light grey-brown silt-clay, 1712, forming the uppermost surviving Phase 3 rampart deposit towards the inside face of the rampart. Two post-holes, 1814 and 1821, located 0.5m apart (measured centre-to-centre) were cut through rampart material 1812, post-pit 1816, and into the subsoil towards the front face of the rampart.

Further to the north, traces of possible disturbed rampart material was recorded, but it is unlikely that this material represented the *in situ* rampart. Here the possible Phase 3 rampart comprised a thin layer of white-grey silt-clay, 1460 (not illustrated). To the rear of this possible rampart material were recorded a series of charcoal-rich deposits (not illustrated).

A north-south aligned beam-slot, P113 was recorded within the entranceway, positioned just to the east of the innermost edge of ditch P123. The beam-slot was recorded for a distance of 2.6m, and measured 0.4m in width, and 0.2m in depth. Most significantly, it was positioned approximately flush with the western side of the northern guardchamber, Structure 9 (see below). No other trace of the southern gatehouse was located, it may be suggested that P113 represented the marking-out of the western wall of the southern guardchamber, which was not continued to

completion. Although the area of the suggested southern gatehouse was extensively disturbed by later Roman and recent activity it is improbable that all other trace of a southern gatehouse could have been scoured-out. More likely, the structure was partly marked out, and never completed.

To the north of the entrance, the western Phase 3 fort ditch ditch, C171 (Plate 18), varied in width between 3m (at its southern terminal), and 1.5m (in the north of the area excavated) towards the northern end of the excavated area, where modern downcutting was most severe. Towards the entrance the ditch was 1.3m in depth, but only surviving to a depth of 0.85m in the north of the excavated area. The Phase 3 ditch was truncated by a Phase 4 re-cut, C172 (see below), and for this reason the full Phase 3 ditch sequence could not be recovered. Towards the entrance the Phase 3 ditch was cut to a V-shaped profile, with a rounded base. Further to the north, the ditch was cut to a V-profile, with a cleaning-slot in its base, recorded adjoining the southern terminal of C171.

In the extreme north of the excavated segment of C171 a Phase 3 re-cut, C187 was recorded. The re-cut was cut to a stepped, V-shaped profile, with a steeply-sloping basal cleaning-slot. C187 measured a maximum of 1.77m in width, and 1.07m in depth. Its primary backfill comprised a mottled grey-brown-orange clay-sand, 2053, interpreted as collapsed rampart material. Above were interleaved grey-brown mottled sand-clay deposits, 2049-2052, further rampart material. This Phase 3 re-cut was not recorded elsewhere along the excavated length of the western ditch of the Phase 3 fort. It is possible that the re-cut could have been deeper closer to the entrance, in which case C171 would have represented the re-cut, not the primary feature which could have been completely dug-away by it, although this cannot be proven. Alternatively, it is possible that the re-cut did not extend up to the southern terminal of C171, in which case the width of the contemporary entrance would have been correspondingly enlarged. The re-cut could represent no more than an episode in the periodic cleaning-out of the Phase 3 ditch. Alternatively, it could have been associated with the reconstruction in timber of the Phase 3 rampart, recorded elsewhere along its eastern side. This reconstruction was not recorded within Area 18, although along the northern part of the same defences it was formed by the cutting back of the turf rampart, and the insertion of a box rampart (Jones 2001, fig. 19), possibly to counteract localised collapse of the defences which may have been caused by the underlying marshy ground.

There was no *in situ* evidence for the Phase 3 rampart to the north of the entrance, although a single post-pit, 2092, could have formed part of the rampart supports. It contained a post-pipe, 2094. Whilst the perimeter section (Fig. 9.S.1) recorded evidence for the cutting-back of the original Phase 3 turf rampart and the insertion of timber uprights for a box rampart, this arrangement was not continued to the north of the *Porta Principalis Dextra*, which may suggest that the rebuilding was piecemeal. Evidence of rebuilding of the Phase 3 rampart is recorded at the northwestern corner of the Phase 3 fort, and along its eastern side (Jones 2001, figs. 19 and 18, respectively).

A rectangular guardchamber, Structure 9, C161-C170, was recorded adjoining the southern terminal of C171. The south wall of the guardchamber was approximately flush with the southern ditch terminal. A distance of 2m was retained between the

northern side of the guardchamber and the eastern side of the ditch terminal. The gatehouse measured 7m by 4.2m internally. The full ground-plan of the building could not be identified because of modern disturbance. The Structure 9 beam-slots were cut to U-shaped profiles, and measured an average of 0.3m in width, and 0.12m in depth. They were backfilled with grey sand-silt.

The interior of the building was divided off centre into two rooms, R1-R2. R1 in the west of the building measured 3.5m in width (east-west), while R2 measured 3m in width. Separate dividing walls formed the eastern side of R1, C163 and C167, and the western side of R2, C162 and C168; the beam-slots were cut 0.3m apart (measured centre-to-centre). None of these internal walls could be traced across the full width of the building, because of modern disturbance. These internal beam-slots measured between 0.2m-0.4m in width, and a maximum of 0.42m in depth. One of the western beam-slots of R2, C168, was continued to the south for a distance of 0.9m, forming an L-shape in plan, C169. The northwestern corner of R2 contained a single post-hole, 2746, the only internal feature recorded in either room. A post-hole, 2744, was recorded outside the western angle of the building.

Structure 9 may be interpreted as a guardchamber, even in the absence of other surviving details of the presumed remainder of the gatehouse. No evidence was found of a corresponding guard chamber located to the south of the entrance (with the exception of P113, see above). Accordingly, like the Phase 1B *Porta Principalis Dextra*, this Phase 3 entrance may have been designed from the outset to provide limited protection to a subsidiary fort entrance. Excavation has provided no details of the gate-structure, presumably because of later Roman, and modern disturbances. The western half of the *Porta Decumana* was dug by Webster (1954). The western half of the gatehouse comprised six post-pits arranged in two rows each comprising three post-pits. This arrangement was interpreted by the excavator as representing a western guard-chamber, flanking the entrance, although, of course, the full width of the arrangement could not be defined within the excavated area. It may correspond with a single-portalled twelve post type with flanking towers (as at Fendoch, Hobley 1989, fig. 2.21; or a double-portalled 14 post type (as at Pen Llystyn, Hobley 1989, fig. 2.22). A similar arrangement may be anticipated in the *Porta Praetoria*, in an area where the fort defences will have been destroyed by canal construction.

The lack of a corresponding southern guardchamber suggests that the Phase 3 western entrance arrangement was somewhat unusual, albeit echoing the Phase 1B arrangement (see above) which also 'lacked' a southern guardchamber. Only a single gatehouse at this entrance could be a recurring feature.

A fragment of an east-west aligned beam-slot, C174, recorded 3.9m to the north of Structure 9, could have been associated. This separation was the same as the width of the building (north-south), which could suggest that it was originally planned as a double-celled building, but not completed.

At the end of Phase 3, ditch C171 was backfilled with dark grey clay-silt, sealed by brown-grey silt-sand towards the southern terminus. The upper Phase 3 backfills were dug away by the Phase 4A re-cut (see below). Along the remainder of the ditch the backfills comprised red-orange clay-silt, interpreted as collapsed rampart material, sealed by light grey-brown clay-silt.

TABLE 11: Phase 3 features, dating

Konstruct	*Cut*	*Details*	*Dating*
Defences			
P123	1202, 1276	Fort ditch	Samian: 1st century, Flavian or later. 1st century coarse pottery
C171	2039, 2429	Fort ditch	Samian AD 70+, Pre-Early Flavian
C187	2054	Phase 3 re-cut of fort ditch	1st century coarse pottery
-	1814	Post-hole cut into rampart	1st century coarse pottery
Internal features, Structure 5			
C120	2429	Beam-slot	1st century coarse pottery
C121	2462	Beam-slot	1st century coarse pottery
C148	2631	Beam-slot	Pre-Flavian samian
C149	2679	Beam-slot	1st century coarse pottery

TABLE 12: Phase 3 features, metalworking debris

Konstruct	*Cut/fill*	*Wt*	*Details*
P123	1276	279g	Undiagnostic slag
P123	1276	362g	Burnt clay
P123	1276 1277	1g	Hammerscale #

Key: # weight may include other metalworking residues

3.5.3: Description and interpretation of the Phase 3 internal features (Fig. 8)

The only Phase 3 internal structure was a building (Structure 5), composed of eight parallel beam-slots, interpreted as a granary, which measured a maximum of 10m (east-west), and 11m (north-south), located immediately to the east of the postulated line of the western *Via Sagularis*.

Structure 5 comprised eight parallel beam-slots, C112, C115, C117, C120, C121, C123, C149 and C148 (from north to south, Plate 19), all aligned east-west. The individual beam-slots were positioned at a regular separation of 1.5m (equivalent to five Roman feet, Johnson 1983, 145). The western terminals of the eight beam-slots were approximately flush. This side of the building probably respected the eastern edge of the *Via Sagularis*, not itself recorded at excavation. The eastern limit of the building, not fully exposed by excavation, was more difficult to identify; but one of the central beam-slots, C120, was clearly continued to the east of the others, and was also comparatively shallow in depth.

C121 was cut by two stake-holes, 2556 and 2558; and C148 was also cut by a stake-hole, 2639. The beam-slots were cut to U-shaped profiles, with flat bases. They measured an average of 0.4m in width, and 0.2m in depth. The beam-slots positioned towards the centre of the building were notably shallower than those located at the northern and southern ends. The beam-slots were backfilled with brown, or yellow-brown silt-sand, occasionally flecked with charcoal.

The Structure 5 remains formed a granary, the parallel beam-slots identified supporting the raised floor of the building. Other Phase 3 granaries have been identified at Metchley in the *Retentura* (Jones 2001, fig 19, Structure 4.3) and the

Praetentura (Jones forthcoming, Area 12). Usually the beam-slots were positioned transversely across the building. It is not clear if the northern and southern limits of the building were identified at excavation. As excavated, Structure 5 was similar in size to an example from Longthorpe (excluding the loading platform, Johnson 1983, fig. 105). Other examples from Baginton and Pen Llystyn are rectangular in plan, with a ratio of approximately 2:1 of the long and short sides. If this was the original layout of the Metchley example, only part of the building has been identified; the northern end was not excavated, and the southern end could have been scoured-out by modern truncation. The southern end of the building could have extended up to the northern frontage of the *Via Principalis*, where a loading platform be anticipated.

The apparent eastern continuation of C120 beyond this side of the building could mark the position of a loading platform, although a pair of projecting beam-slots would be anticipated, as at Baginton (Hobley 1969, fig. 1), usually positioned at an end of the building. A possible loading platform was positioned along one of the long sides of a Phase 3 granary (Structure 5) in the *Praetentura* (Area 12, Jones forthcoming b).

Structure 5 is particularly important as the only Phase 3 building identified in the Central Range, since no features of this late phase survived modern truncation in Area 20 (Jones 2005). Of the only four Phase 3 buildings identified by excavation, three comprise granaries (Structure 5, Area 20 in the Central Range, and Structure 4.3 in the *Retentura*, Jones 2001, fig 19, and Structure 5, Area 12, in the *Praetentura*, Jones forthcoming), and the other a possible cook-house (Structure 2.4, Jones 2001, fig. 18. It is possible that the granary beam-slots could have been overall more deeply-cut than those of other buildings, which may have contributed to their survival. It is also possible that other Phase 3 buildings could have been constructed on earth-fast ground beams, although this method of construction would be unexpected in a military context. It is also possible that the Phase 3 fort could have had a specialised function as a military stores depot, following the function of the Phase 2B activity at the site, but with an emphasis on grain storage.

Although no direct correlation can be made between the size of the Phase 3 Metchley granaries and the overall strength of the garrison, it is notable that all the granaries of this late phase are small. The granaries in the *Retentura* and *Praetentura* survived only to a width of 3-4m. Structure 5 in the Central Range is by far the largest, but measures only 10m by 11m. Johnson (1983) notes that timber-framed granaries measured an average of 20-30m in length and 6-10m in width, although smaller examples do occur.

The area to the south of Structure 5 was heavily truncated by modern downcutting. No features, or possible features were identified within the very small part of the Phase 3 *Praetentura* examined within the Area 18 excavation.

3.6: Phase 3/4 (Fig. 4)

3.6.1: Summary of the Phase 3/4 features (Figs. 9-10)

The features attributed to this phase could belong to later Phase 3, to Phase 4, or to both. The pottery spot-dating is not sufficiently precise to enable closer chronological

resolution of the sequence at this, assessment, stage. In this phase a destruction deposit was deposited overlying the Phase 3 rampart, and a drainage gully was cut towards the rear of the surviving rampart. The removal of timber supports from the Phase 3 rampart could have been contemporary. Following the demolition of Phase 3 guardchamber, Structure 9, two buildings were laid out within *Porta Principalis Dextra*. The earlier of these two buildings, Structure F, was mainly defined by a rectangular arrangement of pits and post-holes. It was succeeded by rectangular Structure E, formed by beam-slots, possibly used as a guardchamber, which will also have reduced the working width of this entrance.

No internal, or external features which could possibly be attributed to this phase were recognised.

3.6.2: Description and interpretation of Phase 3/4 defences (Figs. 9-10)

A layer of brown silt-clay-sand, 1110 (Fig. 9.S.1), was deposited overlying the rampart, either at the end of Phase 3, or at the beginning of Phase 4. This material included quantities of charcoal and may be interpreted as a destruction deposit.

In late Phase 3, or early Phase 4, a pit, 1716, was dug towards the centre of the rampart, located in the north-facing perimeter section. It was truncated by a further pit, 1714, possibly dug to recover the timber post from 1716. 1717 was dug through layer 1110, and into the underlying rampart. 1714 was stepped in profile, and measured a maximum of 0.6m in depth, and 1m in diameter. It was backfilled with dark grey-brown silt-sand, 1713. In turn, the western edge of 1716 was cut by a second post-pit, 1811, which was cut to a W-shaped profile, measuring a maximum of 0.6m in depth, and 0.8m in diameter. This pit was backfilled with dark brown organic sand-silt, 1810. Elsewhere, along other parts of the western, and the northern defences the Phase 3 turf rampart was replaced by a box rampart, characterised by a triangular arrangement of post-pits (Jones 2001, figs. 18-19).

During this phase the Phase 3 ditches were maintained, and presumably continued to be cleaned-out.

A north-south aligned palisade trench, P103, measuring 0.3m in width was recorded running along the western edge of ditch P123, although not as a single, continuous feature, presumably because of modern disturbances. A further, east-west aligned palisade trench, P104, was recorded just beyond the northern ditch terminal. P104 cut P103, and also appeared to be slightly misaligned with the line of the western defences. An interrupted palisade trench, P107 and P110 was also recorded towards the rear of the projected alignment of the contemporary rampart, not itself recorded *in situ*. The northern terminal of north-south aligned P110 was approximately flush with the projected alignment of east-west aligned P104, and it is possible that the two palisade trenches were related; the intervening area was disturbed by recent activity. Two post-holes, 1458, 1464, cut 0.8m apart (measured centre to centre) could have been associated with the suggested eastward continuation of palisade trench P104.

The other main events in Phase 3/4 were the demolition of Phase 3 Structure 9, and its replacement with Structure F, in turn demolished and replaced with the larger Structure E.

Structure F was rectangular in plan, measuring 6m by 3m, its long axis aligned east-west, at a right-angle to the western fort defences. The northern side of this building was formed by three large post-pits, 2763, 2735 and 2725, positioned flush with the southern side of Phase 3 Structure 9. The outermost pair of these Structure F post-pits were cut 4.2m apart (measured centre-to-centre). The westernmost post-pit, 2763 was oval in plan, measuring a maximum of 0.72m in diameter, and 0.85m in depth. It was vertically-sided, with a flat base. 2763 was backfilled with grey-brown silt-clay sand, 1762. The central feature of this group, 2735, was rectangular in plan, and vertical-sides. It measured a maximum of 1.4m in length, and 0.75m in depth. It was backfilled with redeposited subsoil, 1599, sealed by orange-grey clay, 1598. The easternmost pit, 2725, was oval in plan, and measured a maximum of 0.6m in diameter, and 0.32m in depth. It was cut with vertical sides. It was backfilled with red-brown sand-clay-silt, 1532. Two post-holes, 2748 and 2760, were cut between 2735 and 2725. Associated may be an oval post-hole, 2738, cutting C168.

The eastern side of the building was defined by two pairs of post-holes, by pit 2725, and beam-slot P127. The intercuttting post-holes, 1679 and 1686; 1758 and 1760, were cut into the Phase 3 *Via Principalis* close to the centreline of the projected alignment of the contemporary rampart. The post-holes were cut off-centre within the entranceway, the distance between the northern pair and the ditch terminal was half of the distance from the southern pair of post-holes to the corresponding ditch terminal. The intercutting post-holes were separated by a distance of approximately 4.7m (measured centre to centre). The post-holes measured an average of 0.6m in diameter, and 0.19m in depth. The northern end of the eastern side of the building was formed by a north-south aligned beam-slot, P127, measuring 1.1m in length. This was cut by an east-west aligned beam-slot, P130. This may have defined part of the southern side of a room within the northern end of the building, further defined by oval pit 1776, and post-hole 1780 at its southwestern angle. 1776 was cut by 1778, a stake-hole. As so defined the room measured 4m (east-west) by 2.2m (north-south). The eastern and western sides of the room were flush with the eastern and western sides of the building.

A further, east-west aligned beam-slot, P129, flush with P130 to the north could have defined the eastern end of the southern side of a corridor measuring 2m in width (centre-to-centre) located to the south of the room. The southern side of this corridor could have been further defined by adjoining post-hole 1737 and post-hole 1790 at its western end.

The southern side of the building, defined at its eastern limit by intercutting 1686 and 1679 may have been dug-away by later Phase 3/4 Structure E (see below).

To the east of Structure F were two parallel, east-west aligned beam-slots, P126 and P128 which could have been associated. P126 was cut by a post-hole, 1571, and P128 was cut by a small pit, 1591.

Three post-holes were also cut along the northern external wall of the building. 2719 and 2730 which were located 2m apart (measured centre-to-centre). 2719 was cut onto backfilled post-pit 2763, and 2730 was cut into backfilled post-pit 2735. The

post-holes measured an average of 0.7m in diameter, and 0.75m in depth, and were backfilled with red-brown sand-silt-clay.

A rectangular building, Structure E, with its main axis aligned east-west, was cut into the Phase 3 *Via Principalis* surface, 1019, across the former entranceway. The walls of this building were defined by beam-slots. The south beam-slot, P115/P124, was cut into 1686 and 1679 belonging to Structure F, and into Phase 3 beam-slot P113. The western wall of Structure E, P114, approximately followed the eastern edge of the contemporary ditches on either side of the entrance. The southern side of the building was set back 3m from the terminal of ditch P111, and 1m from the opposing terminal of ditch, C172. The building measured 9m (east-west) by 6m (north-south). The western wall, P114, and southern wall, P115/P124, were recorded in full, together with a small fragment of the southern end of its western side, P124. The northern side of the building may have been formed by a re-use of the northern side of Structure F (2763, 2735 and 2725, see above). The Structure E beam-slots were cut to U-shaped profiles, and measured an average of 0.45m in width, and 0.1m in depth. A post-hole, 1699, and a stake-hole, 1701 (not illustrated), were cut into the beam-slot forming the southeastern angle of the building. The beam-slot backfills comprised red-brown sand-silt.

An east-west aligned beam-slot, P112, was recorded for a distance of 4.5m outside the western wall of the building. This beam-slot was positioned centrally along the western side of the building, P116, but could not be related to it stratigraphically because of an intervening modern disturbance, not numbered. P112 may have been associated with a north-south aligned palisade trench, C163, recorded for a distance of 10m, and 0.4m in width, whose southern terminal lay just to the north of P112. C173 was continued to the north of the entrance, where it may have been entirely removed by modern truncation. It was backfilled with dark brown silt-clay.

The effect of the construction of Structure E was to reduce the width of the western entrance, and to provide a corresponding increase in the accommodation available in this possible guardchamber.

A shallow pit, 1750, measuring 1.7m in diameter, and 0.16m in depth was cut towards the rear of Structure E, possibly after the building went out of use. The pit was backfilled with brown-red silt-clay-sand, 1749, flecked with charcoal. A further pit, 1654, was cut into the northwestern angle of the building.

TABLE 13: Phase 3/4 features, dating

Konstruct	*Cut*	*Details*	*Dating*
P110	1405	Gully to rear of rampart	1st century coarse pottery
-	1464	Post-hole associated with Structure F	1st century coarse pottery
P107	1489	Gully to rear of rampart	1st century coarse pottery
P130	1549	E side of Structure F	1st century coarse pottery
P127	1551	E side of Structure F	1st century coarse pottery
P129	1649	E side of Structure F	1st century coarse pottery
P126	1652	Beam-slot east of Structure F	1st century coarse pottery
P129	1784	E side Structure F	1st century coarse pottery
-	1778	W side of Structure F	Samian before AD 85
-	1502	Pit cut at rear of rampart	1st century coarse pottery
P104	1677	Beam-slot at entrance	1st century coarse pottery
-	1716	Pit cut into rampart	1st century pottery
-	1714	Pit cut into rampart	Pre-AD 85 samian
-	1750	Pit cut through *Via Principalis*	1st century coarse pottery
P116	1539	West side of Structure E	1st century coarse pottery
-	1679	Post-pit, in SE of Structure F	1st century coarse pottery
C116	2103	Gully outside fort ditch	1st century coarse pottery

The Phase 3/4 dating evidence, in particular the samian sherds pre-dating AD 85 is consistent with the dating of the Phase 3 fort in the period pre-AD 80/85 (Jones 2001, 119-120). This samian from Area 18 is also the latest datable Roman pottery from Area 18.

TABLE 14: Phase 3/4 features, metalworking debris

Konstruct/Cut	*Wt*	*Details*
P114/1539	312g	Slag and stone concretion

3.7: Phase 4A (Fig. 4)

In other excavations at Metchley Roman forts, Phase 4 was defined to include features post-dating the formal military abandonment of the site. During this phase the site may have been occupied by a small-scale military detachment, perhaps forming a police post. Alternatively, it is possible that the former fort was occupied by a small farmstead, or hostel associated with the *Cursus Publicus*. In this report Phase 4 has been sub-divided into Phases 4A and 4B. Phase 4A represents the latest, albeit small-scale episode of Roman military occupation of the complex.

3.7.1: Summary of the Phase 4A features (Figs. 9-10)

Phase 4A is represented by the re-cutting following the original ditch line of the Phase 3 fort ditch which had become almost entirely obliterated by silting. The position of the Phase 3 *Porta Principalis Dextra* entrance was retained within the western Phase 4A ditches, although no formal gate-house could be associated with it. A group of large pits were recorded outside the Phase 4A re-cut ditch, the only Phase 3, or Phase 4A features recorded outside the western defences.

3.7.2: Description and interpretation of the Phase 4A defences (Figs. 9-10)

Traces of the Phase 4A rampart, 1711 were recorded in the north-facing perimeter section (Fig. 9.S.1), the only place where the rampart survived. 1711 was recorded for a width of 3.8m, and to a depth of 0.25m. The outer and innermost edges of the rampart were truncated by later disturbances, so the original width of the rampart could not be defined. A pit, 1709, was cut into the Phase 3 rampart, towards the rear of the Phase 4A rampart.

The Phase 4 *Porta Principalis Dextra* measured 10m in width. The ditches to the south and north of the entrance were slightly misaligned, probably as a result of re-cutting. The ditch terminals were different shapes in plan, probably for the same reason. To the south of the entrance the Phase 4A fort ditch, P111, was cut to a mostly V-shaped profile, and measured a maximum of 2.9m in width, and 1.5m in depth. Towards the southern terminal of the entrance, the ditch was W-shaped in profile, as a result of re-cutting. The Phase 4A ditch, P111, was backfilled with sand, with lenses of charcoal, 1271, sealed by brown-grey silt-sand, 1261. This layer was overlain by a charcoal-rich dark grey sand-silt, 1260, a possible destruction deposit, sealed by a grey-brown sand-silt, 1201, comprising 50% large pebbles. All of the fills were deposited in horizontal bands, suggesting deliberate, and rapid backfilling. Adjoining the northern terminal of P111 the ditch was backfilled with brown silt-sand, 1277.

To the north of the entrance the Phase 3 ditch, C171, was re-cut, C172, along its entire length. The re-cut ditch measured an average of 0.6m in width, and 0.3m in depth along most of its excavated length. Its southern terminal was enlarged to a width of 1m. It was cut to a U-shaped profile, with a flat base. It was backfilled with grey-blue clay, flecked with charcoal. C172 was of uniform depth along its excavated length to the north of the entrance, despite more severe modern truncation in the extreme northern part of the excavated part of the ditch, which suggests that the ditch was originally cut more deeply to the north of the entrance.

No features attributable to Phase 4A were recorded within the fort interior.

TABLE 15: Phase 4A features, dating

Konstruct	*Cut*	*Details*	*Dating*
C172	2042	Phase 4 re-cut of Phase 3 ditch	1st century coarse pottery
-	1709	Pit cuts rampart	Pre-Flavian samian
-	2109	External pit	1st century coarse pottery
-	2131	External pit	1st century coarse pottery
-	2175	External pit	1st century coarse pottery

TABLE 16: Phase 4A features, metalworking debris

Konstruct/Cut	*Fill*	*Wt*	*Details*
1709	1708	3g	Hammerscale #
C187/2054	2048	6g	Hammerscale #

Key: # weight may include other metalworking residues

3.7.3: Description and interpretation of the Phase 4A external features (Fig. 10)

A group of mainly large re-cut pits which may be attributable to Phase 4 were located outside the southern terminal of C172. They were cut into the natural subsoil, 1008. The southernmost pit, 2205 (Plate 20), was U-shaped in profile, and measured a maximum of 1.1.7m in diameter, and 0.21m in depth. It was backfilled with grey silt-sand-clay. Further to the north was circular pit 2131, which was cut to a U-shaped profile, measuring a maximum of 2.58m in diameter, and 0.98m in depth. Its banded deposits of grey-brown silt-sand were interleaved with lenses of charcoal. Its re-cut, 2143 was dug with steep sides and a flat base, and was backfilled with orange clay-sand. Disturbance 2144 (not illustrated), was cut through the backfills of 2143. 2144 was roughly circular in plan, and measured a maximum of 0.9m in diameter, and 0.28m in depth. It was backfilled with grey silt-sand, with frequent small pebbles. A further pit, 2175, positioned 3.5m to the north of 2131 (measured centre-to-centre), and of similar size and profile, could have been related. 2175 was backfilled with orange sand-clay containing quantities of small rounded pebbles. It was re-cut by pit 2172, which was cut to a U-shaped profile, and measured a maximum of 0.96m in diameter, and 0.38m in depth. This feature was backfilled with grey silt-clay, and in turn cut by a post-hole, 2181. The westernmost pit of this group, 2109, was cut to a U-shaped profile, measuring a maximum of 1.68m in diameter, and 0.25m in depth. It was backfilled with light grey silt, with small pebble inclusions.

The context of these features is not clear. It is possible that these features could have been industrial in use, even though no significant ironworking residues were found in their backfills. A Roman military or civilian context is possible.

3.8: Phase 4B (Fig. 4)

3.8.1: Summary of the Phase 4B features (Fig. 10)

Within the fort interior, Phase 4B activity was concentrated within and adjoining to, the Phase 3 *Porta Principalis Dextra*. A number of features were cut at the back of the rampart, to the south of the entrance, including features cut at a tangent to the main fort alignment. The main group of Phase 4 features within the former entranceway comprised an L-shaped arrangement in plan, forming an irregular 'blocking' of the entrance. This layout included a north-south ditch, and a short length of an east-west aligned gully. The intervening gap, in the northeastern corner of the arrangement was 'blocked' by a pit. Phase 4B is interpreted as representing the earliest post-military activity at the complex, either in the later Roman, or post-Roman periods.

3.8.2: Features within the former fort entrance (Fig. 10)

Activity in this phase was concentrated within the former entrance area, following the abandonment of Phase 3/4 Structures E and F (see above). The westernmost of this Phase 4B feature group was a mainly east-west aligned broad and shallow ditch, P125, cut to a V-shaped profile, which was recorded for a length of 3m. The east-west aligned ditch measured a maximum of 1.08m in width, and 0.48m in depth, and was backfilled with dark brown clay-sand, 1619, flecked with charcoal. Its western terminal was cut by a pit, P102. A group of irregular pits were cut into the Phase 3 *Via*

Principalis, 1019, towards the centre of the entrance. One oval pit, 1649, was cut towards the northern terminal of Phase 4 ditch P111. Two further oval pits, 1729 and 1792, were cut towards the centre of the entrance. 1729 cut 1792. Three intercutting pits, 1681, 1688 and 1694 were cut through the backfilled Phase 3-4 beam-slot P124 of Structure E, and into Structure F pit 1686, and into the subsoil, 1008. 1688 cut 1681, and 1694 cut 1688. Two smaller pits, 1371 and 1387, were cut further to the south. The backfills of this Phase 4B pit group comprised grey-brown clay-sand, containing quantities of pebbles derived from the Phase 3 road surface.

During a later stage of Phase 4B activity, an irregular, slightly curvilinear gully, P101, was cut across the entranceway, presumably to block it. P101 was cut through the southern side of Structure E, P115, through the Phase 3 *Via Principalis*, 1019, and into the subsoil, 1008. The southern terminal of P101 was approximately flush with the northern terminal of Phase 4 ditch P111. P101 measured a total of 8m in length, and both its terminals were round-ended in plan. It measured between 0.9m (southern end) and 1.9m (northern end) in width. The cut was steep-sided in profile, measuring 0.35m in depth at its southern end, and 0.56m in depth over the remainder of its length. A post-hole, 1580 (not illustrated), was cut into its lower backfills. P101 was backfilled with dark blue-grey waterlogged clay throughout. The northern terminal of P101 respected the southern side of a pit, 1453, measuring 2m square in plan. 1453 was cut through earlier Phase 4 ditch P125, and into the subsoil, 1008. Traces of possible wood lining, 1584, were recorded in the base of the pit. The basal backfills comprised waterlogged grey-black silts, overlain by redeposited subsoil, possibly including rampart material. This was overlain by layers of brown-grey clay, which may have been backfilled to level-up the pit.

Cutting P101 was a north-south aligned beam-slot, P142.

The positioning of P101 approximately flush with the centreline of the rampart suggests that if it was intended to block the entranceway, and that the rampart was still extant, otherwise P101 would have served no purpose in blocking the entrance. P101 clearly respected timber-lined pit 1453 whose function is not known. It contained Roman pottery, the latest dating to the Pre-Flavian period. Equally, P125/P102 were probably associated with P101.

TABLE 17: Phase 4B features, dating

Konstruct	*Cut*	*Details*	*Dating*
P101	1453, 1827	Cut across entrance	Pre-Flavian samian. 1st century coarse pottery
	1681	Pit	1st century coarse pottery
	1688	Pit	1st century coarse pottery
-	1694	Pit, cuts 1688	1st century coarse pottery
P105	1298	Cut at rear of rampart	Neronian-Early Flavian samian
-	1371	Pit to rear of rampart	Pre-Early Flavian samian
-	1307	Hearth outside fort	Samian: Pre-Flavian, Pre/Early Flavian
-	1141	Beam-slot associated with 1307	1st century samian
-	1014/1110	Cultivation soil outside Phase 3-4 fort	Samian: AD 50-75, Claudian, Pre-Flavian, 1st century

TABLE 18: Phase 4B features, metalworking debris

Konstruct/Cut	*Fill*	*Wt*	*Details*
P125	1652	82g	Undiagnostic slag
1307	1308	1639g	2x hearth bottom fragments (140x90x55; 90x70x50)
1307	1310	3g	Hammerscale #
1827	1825	79g	Burnt clay/slag (assoc P101)
P100/1369	1370	32g	Hammerscale #
P101/1453	1452	1g	Hammerscale #
P101/1453	1584	3g	Hammerscale #
P125/1626	1625	3g	Hammerscale #
1714	1713	78g	Hammerscale #
1716	1715	1g	Hammerscale #

Key: # weight may include other metalworking residues

3.8.3: Description and interpretation of the Phase 4B internal features (Fig. 10)

To the south of the entrance a number of gulleys were cut within the western *intervallum* space. Three of these features, P100, P108, P109 were cut following the line of the rampart, suggesting that it still remained an upstanding earthwork. The gulleys were backfilled with dark grey silt-clay. Other adjoining gulleys, P105-P106, were cut at a tangent to the line of the Phase 4 defences, and outside the presumed alignment of the western Phase 4 rampart. The gullies measured an average of 0.4m in width, and 0.1m in depth. This latter group were backfilled with dark grey silt-sand-clay. It is possible that this group of *intervallum* features were dug to improve drainage. Two pits, 1311 and 1502 were also dug in this phase to the rear of the rampart. Another Phase 4B event may be the excavation of a pit, 1502, to the rear of the demolished rampart, cutting through P101, and into the subsoil. 1502 was heavily truncated by modern activity, and its full dimensions were not recoverable. It was backfilled with red-brown sand-clay, 1501, flecked with charcoal, and containing a quantity of rounded pebbles, probably derived from the *Via Principalis* surface, 1019.

Although the Phase 4 re-cut, C172, of the Phase 3 ditch, C171, was continued to the north of the entrance, no Phase 4 features were identified within the Central Range, possibly as a result of modern truncation of the relatively shallow Phase 4B features towards the southwestern edge of the excavated area.

3.8.4: Description and interpretation of Phase 4B external features (Fig. 10)

In the extreme south of the excavated area a Phase 4 industrial feature, 1307, was cut through the western edge of backfilled Phase 4 ditch P123, and into the natural subsoil, 1006. It may be suggested therefore that 1307 post-dated the final military abandonment of the site, during which, following standard Roman military practice, the defences would be slighted, including backfilling of defensive ditches. The industrial feature, 1307, was rectangular in plan, measuring 1.6m by 1m in plan, and a maximum of 0.7m in depth. The feature had a flat base, and near-vertical sides. A beam-slot, 1279, rectangular in plan, and measuring an average of 0.3m in width was cut around part of the outside of the feature, was presumably associated with its use. The feature was backfilled with grey-brown silt-sand, 1310, containing large

fragments of charcoal, sealed by a layer of light grey-brown silt-clay, 1309, flecked with charcoal and containing slag fragments. Above was a deposit of red silt-clay, 1308, which may represent the remains of a collapsed clay dome of the feature. A post-hole, 1373, was cut into the eastern edge of 1307. A very large quantity of metalworking debris, totalling nearly 1.7kg was recovered from the backfills of 1307, including slag and large fragments of hearth-bottom. The feature backfills contained Roman pottery, the latest dating to the Pre-Flavian and Pre/Early Flavian periods. This material would be considered to be residual if 1307 post-dates the final Roman military abandonment of the complex.

1307 contained a large group of charred grain. This material is interpreted as rubbish which may have been used to backfill the feature, after it went out of use.

A cultivation soil, 1014/1110 (not illustrated) was recorded overlying the backfilled Phase 4 ditch P111 and C172, and extending to the west of the fort. The cultivation soil comprised light brown silt-clay-sand, measuring up to 0.2m in depth.

3.9: Phase 5 (not illustrated in detail, Fig. 4)

A discontinuous east-west aligned ditch (not illustrated), located to the north of the westernmost end of the *Via Principalis* probably formed a post-medieval field boundary, mapped in the 18th century (Jones 2001, figs. 4-5). The eastwards continuation of this ditch was recorded in Area 20 (Jones in preparation a). No other datable 18th or 19th century features survived mid 20th century terracing of the area in preparation for the construction of Vincent House. A number of disturbances associated with terracing the natural, northwest facing slope were associated with the construction of Vincent House, as were numerous foundation and service trenches and the bases of pits dug to contain vertical supports within the single-storey building.

4.0: ASSESSMENTS

4.1: Quantifications

Tables 1-2 present quantifications of the paper records and finds archive.

TABLE 19: Quantification of the paper archive

Record type	*Quantity*
Contexts/feature cuts	1950
Drawings (plans and sections)	550
Photographs (monochrome print and colour slide)	21 films
Administration	2 files
Environmental	1 file
Survey data	1 file

TABLE 20: Quantification of the finds archive

Finds category	*Quantity*
Copper alloy objects	5
Iron objects	285
Glass objects	25
Stone objects	36
Roman coarsewares	2,958
Amphora	370
Mortaria	9
Samian	140
Metalworking debris/slag	14.88 kg

4.2: Stratigraphic data

The preservation of both cut features and horizontal stratigraphy varied across the area investigated. In places, terracing for Vincent House had removed almost all archaeological features, with the exception of fort ditches (Fig. 4). In other areas, the terracing had involved raising the natural level, facilitating the survival of archaeological features and overlying deposits. The Phase 3 rampart was particularly well-preserved in the northwest-facing perimeter section, although elsewhere the fort ramparts did not survive as *in situ* features.

The original ground-surface sloped downwards from northwest to southeast. Preparatory levelling for Vincent House created three terraces each aligned approximately east-west, at an approximate angle of 45 degrees to the natural slope. Within the Central Range preservation was best in the extreme north of the area investigated, where an extensive range of beam-slots, survived. Over the remainder of the excavated part of the Central Range preservation was poor, with the exception of the western *intervallum* of the Phase 1 fort, where preservation was good, despite some downcutting to create a level surface for Vincent House. Better preservation was encountered in the adjoining western *intervallum* of the *Praetentura*. Here ground-level had been raised preparatory to the construction of Vincent House.

Accordingly, the archaeological deposits recorded here included horizontal deposits, such as pebble surfaces, not recorded extensively in other areas of the excavation.

Other, more localised disturbances were also recorded. These mainly comprised drains dug beneath the floor slab of Vincent House. Other disturbances related to foundation-pits dug to retain columns within the demolished building.

4.3: Assessments

For the purposes of assessment the finds and environmental evidence have not been divided into the sub-phases (e.g. Phase 4A, 4B, etc.).

4.3.1: Small finds by Erica Macey-Bracken

Copper alloy

Copper alloy finds include a possible buckle (layer 2085) which will require x-ray for identification, a scrap of copper alloy (layer 1010), a small teardrop shaped piece of copper alloy (U/S). Two coins (layers 1011 and 1711) were also identified. These will be identified by Dr Roger White. A brief catalogue of the copper alloy objects will be prepared.

Glass

Of the 25 fragments of glass recovered from the site, only twelve were of Roman appearance, or came from contexts containing Roman pottery. The remainder of the assemblage consisted of fragments of post-medieval bottle and vessel glass not worthy of assessment.

The most interesting and identifiable Roman glass fragments were four fragments from a tubular rim in blue/green glass (layer 2293). These fragments, three of which fit together, may be from a bowl or cup, and further research may be able to provide parallels for the form.

The remainder of the Roman glass assemblage consisted of small undiagnostic fragments of blue, green, blue/green and clear glass. At least two of the fragments appear to be from modern vessels (layer 1014, P123, 1276/1277), although both come from Roman contexts, and these fragments may be intrusive.

TABLE 21: Roman glass/glass from Roman contexts

Konstruct Context/cut	*Number of frags*
Layer 1014	3
P116 1033/1031	1
1051/1050 (St Joseph and Shotton trench)	1
1151/1152	1
P123 1276/1277	1
Layer 2293	4
P166 2315/2310	1

A brief catalogue of the Roman glass fragments will be prepared for publication.

Iron objects

A total of 160 nails or fragments of nails were recovered from the site. The nails were widely distributed across the site, as Table 22 indicates.

TABLE 22: Iron nails, locations and quantities (> than two nails per context; Phase 5 contexts not included)

Konstruct Cut/Context	*Quantity*
Layer 1010	3
Layer 1014	9
P166 1033/1031	4
1102/1101	4
Layer 1127	22
1161/1129	3
C176 1208/1211	4
Layer 1303	10
1307/1310	3
Layer 1326	4
Layer 1415	16
P107 1489/1466	25
1478/1479	8

The nails were all heavily corroded, but most of them appeared to conform to Manning's Type 1 (Manning, 1985, 134). Nails of this type have also been found on other parts of the fort (Macey Bracken forthcoming in Jones forthcoming a), and were commonly used across Roman Britain.

Other iron objects

A total of 125 other pieces of iron were recovered. Most of these pieces were discarded scraps, but a few of the larger pieces may benefit from x-ray to see if their original function can be determined. As with the nails, the material was spread across the site, with no obvious concentrations, although more than 20 iron objects were identified in Phase 2B pit C166. Smaller numbers of objects derived from *intervallum* features.

TABLE 23: Other iron objects (Phase 5 contexts not included)

Konstruct Cut/Context	*Quantity*
Layer 1014	2
Layer 1049	1
Layer 1059	5
1068/1069	1
1101/1100	5
1122/1123	1
Layer 1127	2
P145 1270/1269	6
1311/1316	2
Layer 1415	16
P101 1453/1452	1
P125 1652/1662	2
Layer 1706	2
Layer 1710	1
Layer 1711	1
Layer 1712	6
2003/2012	5
C183 2024/2022	5
C171 2039/2040	1
2068/2067	2
Layer 2085	1
C184 2088/2089	1
C166 2208/2136	13
C166 2208/2168	4
C166 2208/2207	6
Layer 2215	1
Layer 2216	16
Layer 2243	1
Layer 2244	6
C166 2315/2310	3
C183 2319/2320	2
2511/2512	1
U/S	1

Following x-ray, a short catalogue will be prepared to describe the identifiable objects.

Stone objects

Thirty-six pieces of stone were recovered from the site. Most of these pieces were unworked, although three fragments of Niedermendig lava quern were noted (Layer 2083), as were two other possible worked pieces (1059, 1475). Two other fragments of stone appeared to have been burnt (2010/2009, layer 2083). The assemblage would benefit from examination by a stone specialist to see if the range of stone present is the same as that recorded in other areas of the fort.

TABLE 24: Stone objects

Konstruct Cut/Context	*Quantity*
Layer 1013	1
P116 1027/1021	1
Layer 1059	1
1153/1154	2
Layer 1171	3
P107 1489/1466	9
1471/1475	1
1471/1476	4
P101 1453/1577	1
1590/1591	1
P125 1626/1619	1
P125 1626/1621	1
P166 2208/2010/2009	2
Layer 2083	3
P166 2208/2207	1
Layer 2216	1
2230/2226	1
Layer 2243	1
2509/2510	1

A brief catalogue of the quern fragments and other worked stone items should be prepared for publication.

4.3.2: Pottery by C. Jane Evans

The Area 18 excavation produced a total of 3,477 sherds of Romano British pottery. This is one of the largest assemblages recovered from Metchley Roman fort, coming from the largest single excavation within the fort interior. The only other assemblage of near comparable size excavated recently came from Area 7-8 (Hancocks 2005, 47, measuring 2,030 sherds) located to test the eastern and southern fort defences, and the eastern and southern annexes. The assemblage from the Area 2-5 excavations remains the largest published group from the site (more than 5,600 sherds). This reflects the fact that these excavations were conducted over a much longer period, and nearly 100% of features were sampled by hand excavation (between 1967 and 1969; Green *et al.* 2001, table 15). The pottery from these excavations was not, however, recorded to modern standards and could not be separated by phase.

The Area 18 pottery was all hand collected. For the assessment it was rapidly-scanned, quantified by count and spot-dated, and a *terminus post quem* was assigned (Appendix 2). Appendix 3 provides details of the samian spot-dating.

All but 23 unstratified sherds came from excavated contexts; 208 contexts in all. The majority of sherds, 2,912 (84%) came from the area of the *Praetentura*, while only 537 sherds (16%) came from excavation of the Central Range (Appendix 2). These proportions probably reflect the fact that archaeological deposits were overall better preserved in the *Praetentura*. The largest assemblages, producing around 100 or more sherds, also came from the *Praetentura*. These derived from layers associated with Phases 1 to 3 (1014, 1059, 1166, 1415); the fill of a post hole (P119, 1111, Phase 1A); the fill of a Phase P4 pit (1309) and from context 1303. Two of these layers (1014 and 1166) are amongst the eleven contexts that produced post-medieval, as well as Roman

pottery. The others comprise: layers 1010, 1013, 1430, 2085; ditch P116 fills (1016, 1017, Phase P1B), pit (1121, 1120, Phase P2B), pit 1471 (1474, Phase P1C-D), and context 2215.

As can be seen from Table 25 below, the largest phased assemblages relate to Phases 2B, Phase 4 and Phase 1-Phase 3.

TABLE 25: Pottery, summary by phase and konstruct

Phase	*Konstruct*	*Sherd count*	*% Sherd count*
Unphased-		**428**	**12.3%**
Unphased	-	10	0.3%
P1A	**P119**	**95**	**2.7%**
P1B	Other	2	0.1%
P1B	C116	9	0.3%
P1B	C176	29	0.8%
P1B	P116	100	2.9%
P1B	Other	34	1.0%
P1B	-	**174**	**5.0%**
P1C	**C105**	**3**	0.1%
P1C-D	Other	181	5.2%
P1C-D	P133	4	0.1%
P1C-D	P134	8	0.2%
P1C-D	P136	3	0.1%
P1C-D	Other	23	0.7%
P1C-D	C183	4	0.1%
P1C-D	-	**223**	**6.4%**
P1D	C109	4	0.1%
P1D	C113	5	0.1%
P1D	C118	3	0.1%
P1D	C119	1	0.0%
P1D	C125	5	0.1%
P1D	-	**18**	**0.5%**
P1-P2B	-	**3**	**0.1%**
P1-P3	-	**1330**	**38.3%**
P2B	Other	300	8.6%
P2B	Other	12	0.3%
P2B	P131	13	0.4%
P2B	P132	22	0.6%
P2B	P138	2	0.1%
P2B	P139	19	0.5%
P2B	P141	26	0.7%
P2B	P145	2	0.1%
P2B	Other	99	2.8%
P2B	C182	6	0.2%
P2B	-	**501**	**14.4%**
P3	Other	55	1.6%
P3	C112	1	0.0%
P3	C121	3	0.1%
P3	C148	5	0.1%
P3	C149	11	0.3%
P3	P123	71	2.0%
P3	C171	7	0.2%

P3	C173/C112	3	0.1%
P3	**-**	**156**	**4.5%**
P3/4	P110	1	0.0%
P3/4	Other	58	1.7%
P3/4	P104	12	0.3%
P3/4	P107	25	0.7%
P3/4	P152	1	0.0%
P3/4	**-**	**97**	**2.8%**
P4	Other	236	6.8%
P4	P101	27	0.8%
P4	P105	1	0.0%
P4	P125	1	0.0%
P4	P127	10	0.3%
P4	P129	11	0.3%
P4	P130	3	0.1%
P4	W	5	0.1%
P4	C171/C172	1	0.0%
P4	C172	2	0.1%
P4	C187	49	1.4%
P4	**-**	**346**	**10.0%**
P4/later	**C138**	**1**	**0.0%**
P5	**-**	**92**	**2.6%**
Total	**-**	**3477**	

Note: 'Other' in the Konstruct column indicates total pottery from deposits for which no konstruct was allocated

Condition, range and variety

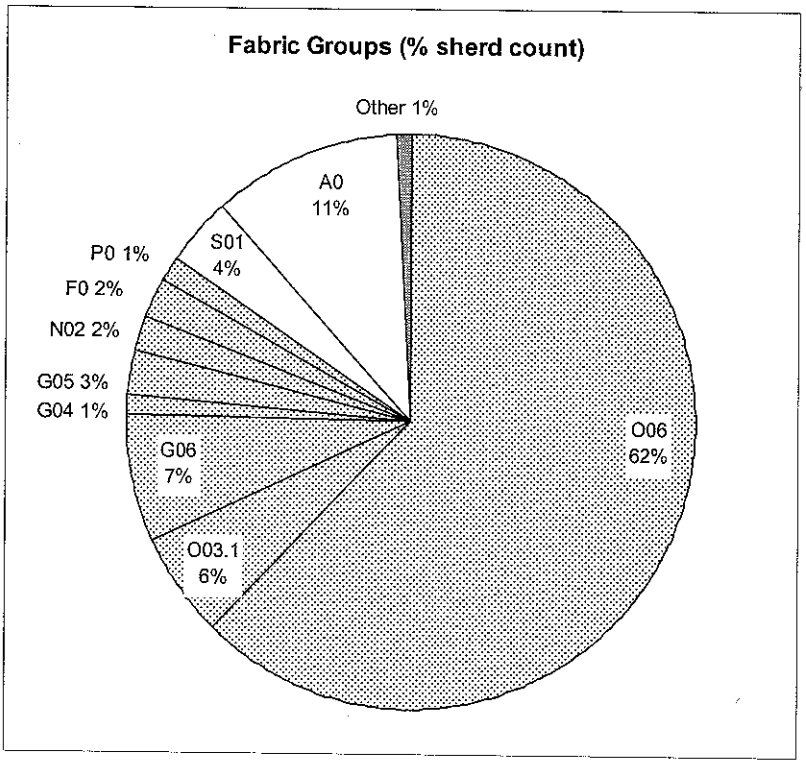
All the pottery was very abraded, with surfaces often having lost their original decoration or evidence of use. Most of the pottery was fragmentary, though the condition of sherds did vary. Some contexts produced more substantial sherds representing single or a few vessels, while at the other extreme, some contexts produced only tiny fragments. Examples of the former include pit 1307 (1309, 1310, 1278, Phase 4), ditch P116 1027 (1032, Phase 1B), beam-slot 1045 (1044, Phase 2B), cut 1133 (1057, Phase 2B) and beam-slot P104 1677 (1678, Phase 3/4). At least one possible join was noted during the assessment, between vessels in the same gully (P132; 1258 and 1217).

The majority of the assemblage comprised coarsewares (Fig. 11), made locally or within the broad Severn Valley region. The fabrics are, for the most part, types already recognised from previous excavations at Metchley and therefore included in the existing fabric series. Most common (Appendix 2) were oxidised sandy or Severn Valley ware fabrics (fabrics O06, O03.1) along with their reduced counterparts (G04, G05, G06). Handmade wares in a native tradition included Malvernian A (N02.1) and various local wares; organic (F11) or sand tempered. Malvernian ware continues in use into the Roman period and is a common find at Metchley. The other fabrics are likely to be Iron Age, or, at the latest, conquest period, and are discussed further below. Imports included South Gaulish samian; amphorae, in various fabrics but predominantly Dressel 20; Lyon ware and possibly some of the mortaria and other white ware. The amphorae represent a significant proportion of the assemblage (Fig. 11), higher than in the Area 7-8 assemblage (Hancocks 2005, table 10) but lower than in Metchley Area 14 assemblage (Evans forthcoming a, 17%) and the assemblage

from Area 12/12a (Evans forthcoming b, 13%). The proportion of samian is similar to that in the Area 7-8 and Area 14 assemblages, but noticeably higher than in the Area 12 assemblage. These variations may relate to chronological or functional variations and need to be explored further during analysis. The presence of a range of amphorae fabrics, if confirmed by David Williams, is compatible with the evidence from the Area 2-5 excavations (Green *et al.* 2001, table 20).

The Area 18 assemblage included *c* 100 rims, with a variety of diagnostic forms. These included: Hofheim-type flagons; large storage jars, often in organic tempered Severn Valley ware, and a range of other jars; tankards; Malvernian tubby cooking pots; beakers, bowls, dishes and platters. The majority are forms already recorded from Metchley, though some new variants may be included. Samian forms included cups (Dr 24/25, Dr 27, Dr 36, Dr 29, Dr 37, Ritt 8, Ritt 9), bowls (Dr 29, Ritt 12) and dishes or platters (Dr 15/17R, Dr 18 or 18R; see Appendix 3). The proportions of all these vessel classes need to be quantified, so that functional and/or chronological variations can be assessed against the evidence from the other excavated assemblages from Metchley.

Fig. 11: Pottery, fabric groups by percentage sherd count



Date

Residual sherds of native Iron Age or conquest period pottery were found in some contexts, again mainly from the area of the *Praetentura*. This supports the published evidence from Area 7-8 for the recovery of small quantities of possible Iron Age pottery from the site (Hancocks 2004, 65). Fabrics included a handmade sandy ware and an organic tempered ware (F11), both presumed to be local, and a possible sherd of mudstone tempered ware. The latter is thought to have been produced from the mid 5th century BC through to the latest Iron Age, but not into the Roman period (Morris 1983; Tomber 1985, 113-5), and was produced in the Martley area of east Worcestershire. All sherds were residual in Roman contexts:

Layer 1058
Gully P145, 1242 (1241, Phase 2B)
Pit 1716 (1715, Phase 3/4)
Post-hole 1814 (1813, Phase 4)
Beam-slot C119 2426 (2425, Phase P1D).

Spot dating for all contexts can be found in Appendix 2. The best dating evidence came from the samian (Appendix 3), though even this did not necessarily provide close enough dating to differentiate the many short lived phases identified from the stratigraphic sequence. All the samian dated to the 1st century. The majority was broadly dated 'pre-Flavian' or 'Claudio-Neronian,' both terms indicating production some time between *c* AD 41 and 68. Some forms were dated more closely to *c* AD 40-60. The assemblage included some typically pre-Flavian forms: Dr 15/17, a type which declines in popularity in the Flavian period, and Ritterling 9, rare after *c* AD 60. Four sherds of samian are consistent with a pre-Flavian date; this ware is thought

to have been produced between *c* AD 40 and 70, though small quantities continue to be deposited on British sites into the early 70s. The latest samian sherds were dated 'pre-early Flavian', with more closely dated sherds *c* AD 50-75 or before *c* AD 85. The rims and handles in Dressel 20 amphorae provided dating evidence consistent with the fine wares; similar to types dated by Peacock and Williams to the mid 1st century (1986, fig. 65, 9-11). Most of the coarseware forms were only broadly datable to the 1st century, though many are paralleled in other pre-Flavian assemblages from Metchley. The Hofheim-type flagons are a characteristically pre-Flavian type. There were no ring necked flagons; these became increasingly common in the Flavian period (Green and Evans 2001, 105) and have been noted elsewhere at Metchley (Area 7-8, Hancocks 2005, 65). One rim thought to be from a rusticated jar, a broadly Flavian to Trajanic type, was noted in layer 2214.

Statement of potential

This is a very important assemblage, being one of the largest assemblages recovered from Metchley and coming from the largest single excavation within the fort interior. Detailed analysis and quantification will enhance understanding of pottery use and deposition within the fort. It will also provide a significant body of data that can be compared with the evidence from the annexes and *vicus*. The growing corpus of fully quantified and accessible data from Metchley makes this an increasingly important Roman site, for regional and national studies.

It is recommended that the Romano-British assemblage is fully analysed and a report produced for publication. Specialist reports should be commissioned for amphorae (David Williams), samian (Felicity Wild) and mortaria (Kay Hartley). The pottery will need to be recorded in detail using the Birmingham Archaeology pottery recording system, and the Metchley fabric and form type series housed at Birmingham Archaeology. Approximately 70 diagnostic sherds will require illustration.

Storage and curation

The pottery will remain stable through time and poses no long-term storage problems.

4.3.3: Charred plant remains by Dr James Greig

Summary

This assessment is based upon 45 of the datable deposits sampled for charred plant remains during the excavation (total of 120). Many of the samples assessed contained small amounts of charred *Triticum* (wheat), *Hordeum* (barley) as well as a few possible *Avena* (oats) and occasional *Corylus avellana* (hazel) nut shell among quantities of wood charcoal. Charred weed seeds were rather few. These could represent the remains of cleaned grain from preparation and use, with oddments finding their way into a fire and small amounts becoming charred there rather than being burnt away. Uncharred weed seeds, which were also present probably represent recent background material.

Objectives

Plant remains were investigated to obtain further evidence for the interpretation of the site and its surroundings at the time of its occupation.

Samples

Samples were collected during excavation of the site. These were floated for charred plant material, and 45 were submitted for assessment as dried material.

Laboratory work

The samples were sorted under a stereo microscope at x 0.4 and the volume measured. Identifications were done at higher magnification.

Results

Most of the flots were charcoal, with occasional coal fragments. The results are set out in Table 26 below. Of 45 samples, 15 contained no plant remains apart from charcoal. Most of the others contained at least some plant remains, although generally in small amounts. Charred grain was present in many samples, most often *Triticum* sp. (wheat), but also some *Hordeum vulgare* (barley) and a little cf *Avena* (possible oat), as well as distorted grains and fragments which could only be identified to Cerealia (cereals). A few wheat grains had the hump-backed appearance of *T. spelta* (spelt wheat). No chaff was found, suggesting that the grain was already prepared for consumption rather than being in storage. Only occasional charred seeds and other plant remains likely to be Roman were found, such as a *Brassica* (cabbage and mustard family), *Rumex* sp. (dock), *Rosa/Rubus* (rose or bramble thorn), a tree bud, *Carex* (sedge) and *Eleocharis* (bristle scirpus), these last two wetland plants. *Corylus avellana* (hazel) nutshell fragments were found in several samples and could also represent remains of food.

The seeds of *Chenopodium* (fat hen) and *Atriplex* (orache) were quite often found in the samples and many were uncharred. As these seeds are black it is difficult to distinguish charred from uncharred ones, and it is possible that some were charred in antiquity. Both represent fairly ubiquitous weeds. Uncharred seeds were found from a range of weeds such as *Stellaria* (chickweed), *Sambucus nigra* (elder) which is a nitrophile growing in formerly occupied places, and *Montia fontana* (blinks) which grows on wet ground and streamsides. Although these seeds could possibly have been preserved waterlogged or anaerobically in the clay soil on the site, it seems more likely that they are of relatively recent origin and intrusive in Roman deposits.

The richer samples were No. 5 from a Phase 1B ditch, No. 25 from a Phase 2B gully, Nos. 36 and 38 from Phase 4 features, Nos. 78 and 79 from Phase 3/4 pits, No. 102 from Phase 4 and Nos. 222 and 223 from Phase 2B pits. Features which would seem likely places to find charred remains, such as the ovens 1033 and 1471 did not contain anything more than charcoal. However, industrial feature 1307 was one of the richest in charred grain, although the question remains whether this was to do with the function of the pit, or simply a backfill after its use. The concentration of charred grain remains therefore seems to be rather unaffected by phase or feature, and may

therefore represent more the random chance of grain remains having been discarded into a fireside, charred there, and finally deposited with the ash and charcoal into a rubbish pit. Grain concentrations could, however, provide some indication of the areas of food preparation or living quarters.

Since the plant remains have already been identified and listed in Table 26 below as part of this assessment, no further archaeobotanical work is recommended. A summary of the results of this assessment, and comparison with the results of other archaeobotanical work will be provided in the final report.

TABLE 26: Charred plant remains

Sample no	*Cut/fill*	*Phase*	*Flot ml*	*Content (probably recent)*
1	1018/1016	1B	30	(*Rubus* sp., *Atriplex* sp.)
5	1018/1022	1B	190	7* *Hordeum vulgare*, 7* Cerealia (1 *Atriplex* sp.)
6	1027/1027	1B	30	1* *Triticum* sp., 1* *Hordeum vulgare*, 3* Cerealia
7	1027/1026	1B	10	no seeds
9	1027/1032	1B	5	no seeds
12	1075/1074	2B	50	2* *Hordeum vulgare*, 1* Cerealia, 1* *Brassica* sp. (5 *Atriplex* sp., 1 *Fumaria* sp., 1 *Rubus* sp.)
17	1033/1031	1C-D	60	1* *Corylus* frg, 1* *Brassica* sp., 2* cf Cerealia (1 *Stellaria* sp., 1 *Rubus* sp., 1 *Atriplex* sp.)
18	1112/1111	1A	80	2* *Triticum* sp. (2 *Chenopodium* sp., 4 *Atriplex* sp.)
20	1133/1057	2B	100	1* *Triticum* sp. (2 *Chenopodium* sp., 3 *Atriplex* sp., 1 *Stellaria* sp.)
25	1143/1217	2B	80	4* *Triticum* sp, 2* Cerealia (6 *Chenopodium* sp., 1 *Rubus* sp., 2 cf. *Trifolium* sp.)
28	1101/1100	1C-D	50	1* Cerealia (6 *Atriplex* sp., 1 *Fallopia* sp.)
31	1276/1277	3	50	no seeds
34	1276/1277	3	5	no seeds
36	1307/1309	4	30	18* *Triticum* sp., 8* *Hordeum vulgare*, 2* Cerealia (1 *Galium* sp., 1 *Chenopodium* sp.
38	1307/1310	4	260	33* *Triticum* sp., 7* *Hordeum vulgare*, 2* cf. *Avena* sp., 35* Cerealia, 1* *Corylus avellana* nutshell fragment
50	1453/1452	4	110	2* *Triticum* sp., 2* Cerealia (1 *Atriplex* sp.)
51	1132/1186	2B	180	no seeds
54	1101/1100	1C-D	80	1* cf. *Hordeum vulgare*
57	1471/1474	1C-D	10	1* *Rumex* sp., 1* *Rosa/Rubus* thorn (1 *Polygonum* sp., 9 small Lamiaceae, 2 *Atriplex* sp.)
63	1552/1553	1C-D	5	1* *Hordeum vulgare*, 3* Cerealia (5 *Atriplex* sp., 4 *Stellaria* sp., 1 *Montia fontana* ssp. *chondrosperma*)
64	1549/1556	4	5	no seeds
65	1551/1558	4	20	(1 *Chenopodium* sp.)
66	1453/1579	4	120	no seeds
69	1626/1619	4	60	no seeds
70	1626/1625	4	40	1* charred tree bud
75	1453/1584	4	580	no seeds
77	1709/1708	4	10	1* cf *Hordeum vulgare*
78	1714/1713	4	140	8* *Triticum* sp., 3* *Hordeum vulgare*, 3* Cerealia (1 Chenopodiaceae)
79	1716/1715	3/4	90	7* *Triticum* sp., 1* *Hordeum vulgare*, 2* *Avena* sp., 10* Cerealia (2 *Chenopodium* sp.)
100	1814/1813	4	70	5* *Triticum* sp., 1* *Hordeum vulgare*, 3* Cerealia, 1* *Corylus avellana* nutshell fragment
102	1827/1825	4	140	16* *Triticum* sp., 1* Cerealia
200	2003/2005	1C-D	90	no seeds
201	2003/2008	1C-D	20	charcoal, no seeds
206	2003/2031	1C-D	80	charcoal, no seeds
208	2068/2067	1C-D	60	(1 *Chenopodium* sp., 1 *Veronica* sp.)

Sample no	*Cut/fill*	*Phase*	*Flot ml*	*Content (probably recent)*
219	2131/2161	4	15	1* *Hordeum vulgare* (20 *Atriplex* sp., 2 *Ranunculus* sp., 2 *Montia fontana*, 1 *Sambucus nigra*)
221	2208/2188	2B	40	2* cf. Cerealia
222	2208/2135	2B	340	19* *Triticum* sp., 2* *Hordeum vulgare*, 23* Cerealia
223	2208/2136	2B	90	20* *Triticum* sp., 24* Cerealia (1 *Sambucus nigra*)
224	2208/2169	2B	160	1 *Chenopodium* sp., 1 cf *Trifolium* sp., possibly charred
226	2003/2013	2B	130	tree bud (1 Chenopodiaceae)
228	2068/2067	2B	10	charcoal, no seeds
242	2054/2048	4	15	charcoal, no seeds
243	2467/2466	2B	460	3* *Triticum* sp., 1* *Hordeum vulgare*, 1* cf *Alnus* bud
258	2631/2638	3	110	2* *Triticum* sp., 1* *Carex* sp., 1* *Eleocharis* sp. (2 *Cirsium* sp., 2 *Stellaria* sp., 2 *Atriplex* sp., 1 *Glechoma hederacea*)

Key: Remains marked * were charred. Remains in brackets were uncharred, or not clearly charred, and may therefore be of relatively recent origin.

4.3.4: Pollen by James Greig

Summary

The ditch samples contain useful amounts of pollen which can be usefully compared with other results from Area 8 at Metchley (Greig 2005) to show something of the surroundings at the time after abandonment of the military complex.

Samples

Three Roman ditches were sampled for pollen on March 10th 2005, by the writer.

Phase 4 ditch C187 (2054) had a lower fill of clay and stones with little obvious organic material. The upper fill was sandier and appeared even less promising for pollen preservation. The lower 55 cm of the fill was sampled every 5cm, and the most promising-looking level to test for pollen was noted.
Phase 3 ditch P123 (1276) was a wide ditch with a lower fill of clay and pebbles, and an upper fill of greyish clay, again with pebbles. Two sections were sampled at an interval of 5cms, A of 40cm and B, which appeared less hopeful material, of 35cm.
Phase 4 gully P101 (1399) was cut into yellowish clay with pebbles, its fill being distinguished by being greyish clay with pebbles, but with no other clear stratigraphy. A 50cm series of samples was collected at an interval of 5cm.

Pollen preservation is chancy and unpredictable in such material which is poorly aerated and damp clay, which probably ranged from neutral to acid, because pollen can be present when no other organic material can be seen, certainly in the field.

Laboratory work, pollen analysis

The pollen samples were processed using the standard method; about 1 cm^3 subsamples were dispersed in dilute NaOH and filtered through a 70µm mesh to remove coarser material, which was then scanned under a stereo microscope. The finer organic part of the sample was concentrated by swirl separation on a shallow dish. Fine material was removed by filtration on a 10µm mesh. The material was

acetolysed to remove cellulose, stained with safranin and mounted on microscope slides in glycerol jelly. Counting was done with a Leitz Dialux microscope. Identification was using the writer's own pollen reference collection. Standard reference works were used, notably Fægri and Iversen (1989) and Andrew (1984). The pollen counts have been listed in taxonomic order according to Kent (1992) in Table 28.

Results

All three samples had similar sediments with, sand and some charcoal flecks retained on the 70μm mesh, together with clay and silt. P101 had a *Juncus* (rush) seed, and P123 had traces of organic material.

Pollen was surprisingly abundant in C187 and P101, and present in P123, although there were large numbers of pollen grains and spores which were decayed beyond recognition. An assessment count of about 100 grains was done on the two more productive samples, and a smaller could on P123.

The main pollen was from *Alnus* (alder) and *Corylus* (hazel), with smaller amounts from *Quercus* (oak) and *Tilia* (lime). Poaceae (grasses) and *Plantago lanceolata* (ribwort plantain) were also abundant. This seems to represent the Roman equivalent of the open scrub which has grown up on the wasteland to the southwest of the fort over the last 30-40 years. The area around the ditch does not seem to have been kept clear of scrub, so the site may not have been heavily occupied, although the presence of charcoal and a single record of cereal pollen suggest that people were still living in the vicinity.

Correlation with other excavations at Metchley

A ditch on the southern edge of the fort (Area 8) provided a very well-preserved pollen sequence showing what appeared to be signs of a woodland growing over the abandoned Metchley site (Greig 2004). The pollen preservation in the ditches in Area 18 was much less good, and so these results may be only telling part of the story as the pollen records from more fragile types may be reduced or missing. The signs of oak, alder and hazel woodland or scrub in the earlier part of the sequence from Area 8 (Greig 2005, 77) certainly seem similar to the signs of these in the Area 18 ditches. This would fit in with the most likely sequence of events of a ditch or gully. When newly dug out, a ditch or gully would start accumulating largely inorganic material from the loose material exposed, until it became grassed over. Later on, a ditch or gully might accumulate more organic material from plants growing in the surroundings, and in the case of an abandoned site, such accumulation could continue for a long time and largely reflect the disuse, rather than the original use of the ditch or gully.

Proposed further work

Further work suggested could be to prepare further pollen samples above and below each test sample to see if there are any signs of change, a total of six further samples.

TABLE 27: Pollen and spores in taxonomic order (Kent 1992)

Sampled feature	*C187 2054 Phase 4*	*P123 1276 Phase 3*	*P101 1399 Phase 4*	
spores				
trilete spores	5	1	2	
Polypodium	36	9	4	polypody fern
pollen				
Pinus	-	?	-	pine
Ulmus	-	?	-	elm
Quercus	4	2	2	oak
Betula	-	-	1	birch
Alnus	38	3	24	alder
Corylus	44	12	26	hazel
Caryophyllaceae	1	-	1	stitchwort family
Persicaria bistorta-tp.	-	-	1	bistort etc.
Tilia	4	4	2	lime
Ericales	?	1	3	heathers
Ilex	1	-	-	holly
Plantago lanceolata	?	-	9	ribwort plantain
Fraxinus	-	-	1	ash
Lactuceae	1	1	4	a group of composites
Aster-tp	-	2	-	daisies etc.
Anthemis-tp.	1	-	-	mayweeds etc.
Cyperaceae	1	-	?	sedges
Poaceae	10	6	34	grasses
Cerealia-tp.	-	-	1	cereals
unidentified pollen	34	10	5	
total identified pollen	105	31	109	
diatoms	3	-	-	

4.3.5: Metalworking debris by Anthony J. Swiss

Introduction

A total of 14.88 kilos of debris (Table 28) was visually assessed with regard to their make-up and morphology, and the possible process with which they were associated.

Metalworking assemblage

The assemblage of debris had already been loosely categorised, with the larger material being examined at Birmingham Archaeology. The smaller debris had also

been categorised into residues and magnetic residues, and both these categories were assessed in Bradford.

TABLE 28: Metalworking debris, larger fragments

Cut/Context	*Weight (g)*	*Description*
Layer/1010	269	Vitrified clay. Undiagnostic slag with charcoal impressions
Layer/1014	186	Undiagnostic slag/concretion with adhered stones
P116/1018/1015	390	Undiagnostic slag and broken hearth bottom
P116/1018/1022	115	Undiagnostic slag
1036/1029	2	Vitrified/burnt clay
1033/1031	6	Undiagnostic slag
Layer/1059	387	Concretion of slag, vitrified clay and stones
1033/1071	29	Vitrified/burnt clay
1102/	107	Burnt/vitrified clay with small charcoal impressions or flecks
Layer/1159	255	Possible hearth bottom with charcoal impressions
Layer/1171	95	Undiagnostic slag and burnt stone
P143/1143/1217	342	Undiagnostic slag/concretion with charcoal impressions. Possible corroded object
P145/1270/1269	1379	Slag with charcoal impressions, possible smithing slag. Vitrified clay, and corroded metal possibly a blade or nail?
P123/1276/1277	279	Undiagnostic slag/concretion
1307/1308	1453	Large lump of slag/concretion possible hearth bottom. Another possible hearth bottom and some undiagnostic slag
1307/1310	186	Slag / clay concretion with charcoal flecks
Layer/1326	66	A piece of undiagnostic slag with charcoal impressions
1523/1538	18	Undiagnostic slag
P152/1539/1554	312	Slag/stone concretion
???1591	18	Undiagnostic slag or concretion
P125/1652/1664	82	Undiagnostic slag, stones, and piece of corroded metal
Layer/1711	9	Undiagnostic slag
2003/2005	293	Undiagnostic slag some with charcoal impressions. Vitrified clay
2003/2005	1043	Slag concretion and vitrified clay. 2 x hearth bottoms
2003/2008	270	Undiagnostic slag, vitrified / burnt clay. Some corroded metal possibly off-cut
2003/2013	287	Vitrified clay. Possible hearth bottom
Layer/2014	118	Burnt stone, concretion and undiagnostic slag
2003/2028	139	Fill of cut 2003. Undiagnostic slag
2003/2038	133	Vitrified clay and small charcoal pieces
2068/2067	85	Vitrified clay, material with small charcoal impressions. Some corroded metal possibly metal off-cut
2060/2075	130	Fill. Vitrified/burnt clay. Undiagnostic slag with charcoal impressions
Layer/2085	12	Undiagnostic slag
2208/2135	5	Vitrified clay
2208/2136	540	Vitrified clay possible hearth lining. Possible corroded object
2208/2136	508	Vitrified clay and undiagnostic slag. Two pieces of corroded metal possible nails. 1 x hearth bottom
2208/2136	423	Vitrified clay possible hearth lining, undiagnostic slag
2208/2136	837	Vitrified clay with charcoal impressions. Hearth lining
Total	**12041**	

Note: Weights include the bag

Within the assemblage of larger debris there were eight items that were considered hearth bottoms or probable hearth bottoms. These have been tabulated (Table 29).

TABLE 29: Metalworking debris, the hearth bottoms

Cut/Context	*Weight (g)*	*Dimensions (mm)*
P116/1018/1015	346	85 x 70 x 35
Layer 1159	255	70 x 60 x 40
1307/1308	1040	140 x 90 x 55
1307/1308	379	90 x 70 x 50
2003/2005	158	75 x 60 x 50
2003/2005	376	110 x 90 x 45
2003/2013	164	65 x 65 x 35
P166/2208/2136	248	100 x 70 x 30

Note: Weights include the bag

Residues

TABLE 30: Metalworking debris, material classed as residue

Cut/Context	*Residue No*	*Weight (g)*	*Description*
P116/1018/1016	1	6	Small pieces of burnt/heat affected clay
P116/1018/1022	5	81	Small pieces of burnt bone and clay. Piece from the base of a ceramic vessel
P116/1027/1026	7	12	Small pieces of burnt/heat affected clay
P116/1027/1032	9	15	Single piece of burnt clay or burnt stone
1133/1057	20	15	Small pieces of semi-burnt charcoal and burnt/heat affected clay
Layer 1059	84	10	1 piece of pottery. Small pieces of burnt white stone
1075/1074	12	14	Piece of burnt/heat affected clay and small pieces of thin pottery
1101/1100	54	35	Magnetically sorted. Small pieces of clay and possible slag. Some small pieces of bone
1101/1100	28	13	Magnetically sorted. Small pieces of burnt/heat affected clay. 1 corroded metal object
b-s/1132/1186	51	10	Burnt clay
P132/1143/1217	25	38	Small pieces of semi-burnt charcoal. A large piece of burnt clay and small pieces of thin pottery
P123/1276/1277	31	33	Pieces of burnt/heat affected clay or concretion
P123/1276/1295	34	362	Large pieces of burnt / heat affected clay/concretion some with adhered stones
1307/1310	38	26	Small pieces of semi-burnt charcoal and burnt clay. A few pieces of burnt bone
P101/1453/1452	50	25	Small pieces of semi-burnt charcoal and pieces of pottery
1471/1474	57	4	Small pieces of semi-burnt charcoal or possibly coal. One small piece of glass
1552/1553	63	32	Small pieces of semi-burnt charcoal and heat affected/burnt clay
P130/1549/1556	64	6	Small pieces of semi-burnt charcoal and heat affected/burnt clay
P127/1551/1558	65	8	Small pieces of semi-burnt charcoal and one small piece of slag with charcoal impressions
P101/1453/1579	66	28	Small pieces of semi-burnt charcoal and burnt/heat affected clay
P101/1453/1584	75	26	Magnetically sorted. Small pieces of burnt/heat affected clay and small slag concretions
P125/1626/1619	69	41	Pieces of semi-burnt charcoal and heat affected clay. Two corroded metal objects possibly nails

P125/1626/1625	70	11	Pieces of semi-burnt charcoal
1709/1708	77	27	Small pieces of burnt/heat affected clay. Some small pieces of burnt bone. One piece of pottery and one corroded metal object possibly a nail
1714/1713	78	20	Small pieces of burnt/heat affected clay. One piece of possibly coal and some fragments of bone
1716/1715	79	7	Magnetically sorted. Small pieces of semi-burnt charcoal and burnt bone
1814/1813	100	11	Small piece of undiagnostic slag. Small piece of burnt/heat affected clay and fragments of burnt bone
1827/1825	102	79	Pieces of burnt/heat affected clay and/or slag concretion. One piece of semi-burnt charcoal
2003/20133	226	29	Small pieces of semi-burnt charcoal and pieces of burnt/heat affected clay
2003/2005	200	188	Magnetically sorted. Pieces of burnt/heat affected clay some of which has vitrified
2003/2008	201	431	Magnetically sorted. Pieces of burnt/heat affected clay some of which has vitrified. Some smaller pieces of semi-burnt charcoal
2003/2029	204	104	Magnetically sorted. Pieces of burnt/heat affected clay some of which has vitrified. Some smaller pieces of semi-burnt charcoal
2003/2030	205	407	Magnetically sorted. Pieces of burnt/heat affected clay some of which has vitrified. Some smaller pieces of semi-burnt charcoal
2003/2031	206	62	Magnetically sorted. Pieces of semi-burnt charcoal and heat affected clay. One corroded metal object possibly a nail or piece of rod
C187/2054/2048	242	16	Magnetically sorted. Small pieces of semi-burnt charcoal and pieces of burnt/heat affected clay
2068/2067	208	6	Small pieces of semi-burnt charcoal and a piece of burnt clay or concretion
2068/2067	228	25	Small pieces of semi-burnt charcoal and pieces of burnt/heat affected clay
C166/2208/2135	222	21	Small pieces of semi-burnt charcoal and burnt/vitrified clay
C166/2208/2136	223	26	Small pieces of semi-burnt charcoal. Pieces of burnt/vitrified clay
2175/2173	225	4	Small pieces of semi-burnt charcoal
Layer 2188	221	30	Small pieces of semi-burnt charcoal and burnt/heat affected clay. Two corroded metal objects probably nails or iron rod
C166/2208/2138	220	272	Small pieces of semi-burnt charcoal and pieces of burnt/heat affected clay. Some stones and a large piece of pottery
2467/2466	243	11	Small pieces of semi-burnt charcoal
C186/2268/2267	233	11	Small pieces of semi-burnt charcoal. One piece of slag / concretion and small pieces of burnt bone
Total		**2685**	

Magnetic residues

TABLE 31: Metallic residues, material classed as magnetic residue

Cut/ Context	*Residue No.*	*Weight (g)*	*Description*
P116/1027/1026	7	1	V. Flake and spheroidal hammerscale
Layer 1059	84	2	V. Some small flake hammerscale
P132/1101/1100	54	2	V. Flake and spheroidal hammerscale
P132/1143/1217	25	2	V. Flake and spheroidal hammerscale
P123/1276/1277	31	1	V. Flake and spheroidal hammerscale
1307/1310	38	3	V. Flake and spheroidal hammerscale
P100/1369/1370	46	32	V. Flake and spheroidal hammerscale
P101/1453/1452	50	1	V. Some small flake hammerscale
P101/1453/1584	75	3	V. Some small flake hammerscale
P125/1626/1625	70	3	V. Some small flake hammerscale
1709/1708	77	3	V. Flake and spheroidal hammerscale
1714/1713	78	1	V. Flake and spheroidal hammerscale
1716/1715	79	1	V. Some small flake hammerscale
2003/2005	200	6	V. Some small flake hammerscale and classic spheroidal hammerscale
2003/2030	205	1	V. Some small flake hammerscale
2048/2048	242	6	V. Possibly some spheroidal hammerscale
2068/2067	208	Too small	A few pieces of flake hammerscale
2138/2138	220	36	Residue which is essentially all flake hammerscale
"	18	2	V. Some small flake hammerscale
"	63	6	V. Flake and spheroidal hammerscale
"	64	1	V. Some small flake hammerscale
"	65	2	V. Some small flake hammerscale
"	66	15	Pieces of burnt clay. Flake and spheroidal hammerscale
"	69	22	Pieces of burnt clay. Flake and spheroidal hammerscale
"	201	Too small	A few pieces of flake hammerscale
"	204	Too small	A few pieces of flake hammerscale
1026	7	1	V. Flake and spheroidal hammerscale
1059	84	2	V. Some small flake hammerscale
1100	54	2	V. Flake and spheroidal hammerscale
1217	25	2	V. Flake and spheroidal hammerscale
Total		**152**	

Key: V= very small pices or clay or stone

Discussion

The analysis of the 14.89 kilos of residue recovered from the excavations at Metchley has indicated that it is debris associated with the working of iron, and not iron smelting procedures. The larger pieces of slag are in themselves undiagnostic of process, but they are not the large blocky or tap slags that would indicate iron smelting. Despite the slag not being indicative of process, material has been identified within the assemblage which is associated with the blacksmithing process i.e. hearth bottoms and hammerscale.

Hearth bottoms are regularly found associated with metalworking debris, and are the plano-convex lumps/concretions of slag and or oxidised metal that are thought to form in the bottom of the hearth (Plates 21-22). They are found in all sizes and do not represent a single episode of smithing, but would have built up over a period of time. Every now and then the smith would clean out or repair their hearth and the bottom

would have been discarded, probably along with the burnt and/or vitrified clay that made up the hearth lining, especially around the tuyere. Being a waste product these residues would have been dumped anywhere suitable outside of the smithy (ditch, pit etc), and thus their recovery spot is more than likely not the location of the smithy.

The hammerscale from the site has been found in several contexts, and in both flake and spheroidal forms (Plates 23-24). Flake scale is iron oxide (magnetite) and forms on the surface of iron when it is heated sufficiently high enough in an oxidising atmosphere. When the metal is removed from the hearth and worked by hammer at the anvil, the flake scale will fly off in all directions or get incorporated into the metal by the hammer. Spheroidal scale can be formed in two ways. During early iron smelting the iron would have been produced in the solid state and formed as a bloom at or near the bottom of the furnace. This bloom would have been removed and then consolidated by hammer at the anvil. The consolidation process would see any trapped slag within the bloom driven out quite vigorously and like any liquid falling through air, the slag would form small spherical droplets and subsequently solidify. Spheroidal slag can also form when a flux is used during the fire-welding of iron. In order to successfully weld iron it would have needed to have been heated up to a bright yellow heat (circa 900 ^{o}C +) and to help stop the oxidation process the smith may have used sand (silica - SiO_2) as a flux. The heat and the hammer pressure during the fire-welding process would see the silica combine and fuse with any iron oxide, and be driven out of the weld as a liquid to form small spherical droplets.

Hammerscale has been recovered from several different contexts and phases at Metchley, and like the heath bottoms and burnt/vitrified hearth lining, this waste product would have occasionally been cleaned up and disposed of away from the smithy, and probably not always in the same spot.

Within the assemblage, several small pieces or lumps of concreted corrosion product and corroded metal were identified. Breaking a couple of the lighter more corroded items open it was clear that these amorphous lumps were the remains of iron objects that had totally corroded, in what was undoubtedly a hostile burial environment for iron. It was not possible to identify what the objects may once have been, but the author has X-radiographed similar items in the past and many of them were visible in the X-ray as having once been nails or blanks for possible nail production. The iron nail of all sizes would have been ubiquitous within Roman forts and fast numbers would have been used, as witnessed by the 10 tons of nails that were found buried in a pit at Inchtuthil (Angus *et. al.* 1962, Pits and St Joseph 1985). It is possible that some of the larger lumps of corrosion product/corroded metal may still have a metallic content.

Many of the contexts had pieces of broken pottery and burnt bone found within them. One can only assume that this is detritus from the everyday living and cooking within the fort and their association with the ironworking debris only confirms that the ironworking residues classed as rubbish and duly disposed of.

Conclusions

Analysis of the Metchley residues has shown that they are almost undoubtedly associated with the blacksmithing of iron, as there are no residues that one would

automatically associate with the smelting of iron, such as blocky slag with large charcoal impressions, tap slag, iron ore etc. The blacksmithing theory is given credence by the recovery of the eight hearth bottoms and hammerscale from several different contexts. The hammerscale has been recovered in both flake and spheroidal form, and although spheroidal scale could be associated with the consolidation of blooms fresh from the smelting furnace, it is considered in this case that the spheroids are the result of the blacksmith using a flux such as sand during the fire-welding of iron. The recovered semi-burnt charcoal is small and again is more in keeping with blacksmithing rather than iron smelting. It is likely that these residues are the remains of relatively small scale smithing which would have taken place within or just outside the fort. The smith's work may have included the forging or repair of tools, weapons, and armour or even a process as simple as the production of nails for use within the fort. Many of the lumps of corroded iron objects are small and may well once have been nails, small blanks or rods for nail production. Nearly 15 kilos of residue is not a large quantity, so it is probable that the smith's waste was backfilled in abandoned features. The Area 18 excavation has only recovered a small quantity of what may originally have been produced.

Recommendations

It is the author's opinion that there is not a great deal further valuable research or analysis which can be done on these residues. It might be worth getting some compositional analysis undertaken on the undiagnostic slag to ascertain the manganese content. Manganese is an element present within some iron ores and during the smelting process it tends to remain with the smelting slag and not enter into the iron's matrix. If manganese was determined in the slag then it is probable that it is associated with smelting.

Further work could be undertaken on the corroded metal objects. Firstly they would need to be X-radiographed and the resultant images examined. This would help to identify what the objects. If any metallic content remained then this would appear opaque on the X-ray, and the object could then be subjected to metallographic analysis. This analysis would indicate what iron alloys had been in use within the fort. The type of alloy would not necessarily be indicative of any particular type of object or manufacturing process, although if good quality steel was found it is most unlikely that this valuable commodity was not being used to make nails.

5.0: UPDATED PROJECT DESIGN

A number of research themes may be highlighted, both in relation to further understanding of the Area 18 site and the Metchley fort complex as a whole, as well as the more general study of Roman forts of the 1st century AD. Overall the Area 18 results will be set within the context of earlier work at the military complex.

5.1: Pre-Roman/Conquest activity

The small group of Late Iron Age/Conquest period pottery may provide evidence for pre-Roman occupation, or even for activity at Metchley at the approximate time of fort construction. Small quantities of Iron Age type pottery have been recovered from

previous investigations (e.g. Hancocks 2005). Further study of this material may provide closer definition of their chronology, and comparison with material of similar date from other excavations at Metchley.

5.2: Earliest suite of Roman military activity

Phase 1A provides an important addition to the growing evidence for an early Roman construction camp at Metchley, in particular from excavation along the western defences (also Jones forthcoming a), a topic deserving further study.

5.3: Phase 1B defences and gatehouse

The form of the Phase 1B gatehouse, Structure B, is unusual in that it incorporates only a single guardchamber. There are no published parallels for this arrangement, which might suggest that the structure was never completed. It is however more likely that the *Porta Principalis Dextra* was a subsidiary entrance and as such did not require protection from two guardchambers, nor an outer gate structure. Parallels should be sought for differences in guard-chamber arrangement along a single fort's perimeter which may identify 'primary' and 'secondary' fort entrances.

5.4: Phase 1C and Phase 1D internal fort layouts

Because of the comparatively large areas investigated, and the high degree of archaeological preservation it has been possible to identify two distinct Phase 1 alignments, separated by an angle of seven degrees (Phase 1C and Phase 1D). It is possible that the early layout (Phase 1C) could be associated with a construction camp, although this cannot be proven. The results of other area excavations at Metchley should be reviewed to ascertain if different alignments can be identified. Similar evidence for the slight re-alignment of fort internal buildings should be sought from other 1st century AD timber-built forts.

5.5: Interpretation of Phase 1D Central Range layout

Interpretation of the function and layout of Structure 2 is of particular importance. Preliminary analysis of its internal arrangement suggests that it may be interpreted as the *Principia*. This building is more usually located at the centre of the fort, at the junction of the main roads. Further parallels should be sought for the fuller interpretation of Structure 2.

5.6: Later Phase 1C-D layouts

Changes to the fort layout are represented in the east of Structure 2, and outside the same end of that building. It also appears that the *Via Sagularis* was given up to the north of the *Via Principalis*. This would be unexpected, since the *Via Sagularis* was intended to facilitate rapid movement of troops, or supplies, around the fort. The evidence for the continuation of the *Via Sagularis* into the Central Range is not conclusive. Its abandonment, at least in part could suggest that the fort's primary garrison function may have been replaced by a more specialist one. Such a specialist function may be suggested by the re-modelling of the barrack-blocks recorded in the left *Retentura* (Jones 2001, fig. 11).

It is not clear if these changes took place during later Phase 1 (Phase 1D), or in Phase 2A, when annexes were added to three sides of the fort defences.

Wider parallels should be sought for similar structural changes, along with their wider function implications.

5.7: Industrial functions of Phase 1C-D fort

Excavation has provided an important sample of the western fort *intervallum*, where a range of industrial activities would be anticipated. Further parallels should be sought for the range of features identified, and the processes which may have been represented by the metallurgical residues identified. It is accepted that the metallurgical residues may have been produced *ex situ*.

5.8: Phase 2B defences

The internal arrangement of the Phase 2B fort is characterised by irregular, and presumably temporary structures, probably thrown up at short notice. The Area 18 excavation has provided the first evidence for a contemporary entrance arrangement, here comprising a rectangular building, Structure C, which may have provided a crude shelter for the small number of troops guarding the facility. Further parallels should be sought for this entrance arrangement, which appears to be without parallel within published military contexts. The importance of this Area 18 entrance arrangement is enhanced by its association with a contemporary 'funnel-type' arrangement (Jones 2002), located just beyond the outer limits of the 2004-5 excavation.

Also of interest from the Area 18 excavation is the treatment of the remainder of the Phase 1B defences during the operation of the military stores depot. During Phase 2B the rearward timber revetment of the Phase 1B rampart was removed in the Central Range. In the former *Praetentura*, a group of features encroached upon the line of the earlier rampart. In each case, these Phase 2B events indicate that the rampart was reduced in width. It is less likely, but still possible that the rampart was entirely demolished, which would imply that the earlier fort ditch may have gone out of use as a result of its backfilling with rampart material. The pottery dating evidence from rampart demolition deposits from the present, and earlier excavations should be reviewed to attempt to further refine this important sequence.

5.9: Continuity between Phase 2B and earlier layouts

Earlier excavations in the *Retentura* (Jones 2001, 44-47) suggested that the demolition of Phase 1 buildings was part of the same sequence as the layout of the Phase 2B temporary structures. In contrast, the evidence for Area 18 suggests little continuity existed between the two phases. The evidence from the Central Range was more difficult to interpret. Here, the identifiable Phase 2B buildings were apparently located outside their Phase 1C-D counterparts. This may suggest that the earlier buildings were retained in the layout of this part of the military stores depot, which may imply the continuation of the administrative function performed by the Phase 1C-D buildings. Alternatively, it is possible to argue that all trace of the flimsy Phase 2B

buildings may have been scoured-out by the construction of Phase 3 granary (Structure 5) which occupied a similar footprint.

Whilst the *Via Principalis* continued to be maintained in Phase 2B, the western *Via Sagularis*, which may have been partly abandoned by the end of Phase 1D went entirely out of use, and its line was encroached upon, not least by pit C166.

5.10: Function and sequence of Phase 2B structures

As noted by Swiss (above) the metallurgical residues may have derived from an adjoining area set aside for smithing, possibly involving the small-scale repair of tools and weapons. The evidence of *in-situ* deposits was limited. In particular it is difficult to find parallels for the large pit, C166. Whilst this feature contained comparatively large quantities of metallurgical residues and a number of iron objects, these may have been dumped within the feature after it went out of use. Indeed, the quantities of unburnt cobbles recovered from within the pit backfills, and the lack of evidence for *in situ* high temperature processes argue that the feature was not associated with a hot temperature process. Further parallels should be sought for this feature.

As recorded in the *Retentura*, the examination of the military stores depot layout in Area 18 has identified several discrete sub-phases of activity. The stratigraphic evidence and published parallels for these discrete evidence require further study.

5.11: Phase 3 and 3/4 defences

Parallels should be sought for the Phase 3 entrance structure. Its form might suggest that it was either unfinished, or that, like the Phase 1B entrance, it guarded only a subsidiary entrance to the fort.

Parallels should be sought for the Phase 3/4 entrance arrangements. Structure F may represent a single roomed building, possibly a guardchamber, controlling access to the fort along a corridor to the south. It is possible that this building was an addition to Phase 3 Structure 9, also interpreted as a guardchamber. Structure F was replaced by Structure E, which occupied the majority of the entranceway. The arrangement of Structures E and F could suggest that this entranceway was intended for pedestrian access only.

5.12: Implications of Phase 3 layouts

The identification of a further granary, Structure 5, within the Phase 3 fort is significant. With the exception of a possible cookhouse (Structure 2.4, Jones 2001, fig. 18), all other buildings belonging to this phase are granaries. Within the normal military layout a granary constructed towards the centre of the Central Range would be an unexpected feature, as would the granary found on the left side of the *Retentura* (Structure 4.3, Jones 2001, fig. 19). While the number of granaries found could merely represent the fact that they were constructed using more deeply-cut beam-slots than other structural features, it is also possible that the Phase 3 fort had a specialist function for grain storage. The published parallels for similar specialist activity should be further explored.

5.13: Phase 4A context and function

The main event in Phase 4A was the re-cutting of the western Phase 3 fort ditch. This event may have been contemporary with the re-cutting of the southeastern fort defences (Jones 2005, fig. 18), and the re-cutting of the eastern annexe. The implication of the ditch re-cutting in Area 18 is that the Phase 3 fort ditch was backfilled before re-cutting took place, such backfilling being an event usually associated with an orderly military withdrawl. It is possible, but not provable, that the Phase 4A ditch re-cut was contemporary with the reconstruction of the rampart along part of the defensive perimeter. The stratigraphic evidence for re-arrangement of the Phase 3 defences requires a careful review, to clarify the sequence of events, and its significance for interpretation of the later Roman military history of the complex.

5.14: How typical was Metchley fort?

The arrangement of the defences and the internal structures, both individually and collectively has identified a number of departures from what might be termed 'normal' military practice. The wider implications of these unexpected layouts should be considered. In particular, do these 'departures' from the norm suggest that traditional assumptions concerning what was the Roman military 'standard' should be challenged? Alternatively, should Metchley be seen a 'non-standard' military complex through much of its military life cycle?

5.15: Pottery dating

The Area 18 excavation has produced the largest stratified assemblage of pottery from the military complex overall. This has the potential to refine the chronological sequence of activity (in particular from the samian and mortaria), and also to provide new information concerning the changing pattern of military supply.

5.16: Environmental data

Although comparatively limited, the recovered charred plant remains have the potential to contribute towards an understanding of the fort economy.

5.17: Phase 4B context and function

In contrast to Phase 4A, Phase 4B post-dates the final military abandonment of the ccomplex, and may be placed either in the later Roman, or even the post-Roman period. The Phase 4B features in Area 18 which mainly relate to an irregular blocking arrangement of the fort entranceway may be associated with latest re-cuts of the southeastern fort ditches (Jones 2005, fig. 18), a sequence supported by detailed post-Roman environmental evidence, and perhaps also to the cutting of a three-sided ditched enclosure within the southwestern angle of the Phase 3 fort (Jones 2001, fig. 19). Samples should be selected for C14 dating from appropriate deposits.

The cumulative evidence for the post-Roman use of the complex should be reviewed in detail, and placed in its wider context.

6.0: PUBLICATION SYNOPSIS

It is proposed to publish the results of the excavation as a monograph in the *Transactions of the Birmingham and Warwickshire Archaeological Society.*

The provisional title of the monograph will be:

Roman Birmingham 4, Metchley Roman fort, excavations along the western defences and in the fort interior, 2004-5

The monograph will be arranged as follows:

Text

Summary (2,000 words)
Introduction and methodology, the site, phasing and context (5,000 words)
Results (35,000 words)
Description and interpretation of the evidence by phase

Finds
Copper alloy, iron, stone, glass objects (1,500 words)
Fired clay objects (250 words)
The pottery, coarse and fine wares (8,000 words)

Discussion (10,000 words)
Integrated discussion of the Area 18 excavation results

Conclusion (2,000 words)

Appendix: Roman pottery fabric series

TOTAL 58,750 words

Illustrations

1	Location of Metchley Roman forts
2	Metchley forts phasing
3	Archaeological investigations 1999-2001 and 2004: areas investigated
4	Detailed plan of Central Range and *Praetentura*, showing areas investigated
5	Simplified plan of all features excavated
6	Phase 1A plan and sections
7	Phase 1B plan
8	Phase 1B sections
9	Detailed plan of entrance
10	Phase 1C-1D internal features, simplified plan
11	Detailed plan of Phase 1C-1D *intervallum*
12	Phase 1C-1D *intervallum* sections
13	Phase 1C-D *Praetentura* detailed plan
14	Phase 1C-1D *Praetentura* sections

15 Phase 1C-1D Central Range detailed plan
16 Phase 1C-1D Central Range sections
17 Phase 2B simplified plan
18 Phase 2B entranceway plan and sections
19 Phase 2B *intervallum* plan
20 Phase 2B *intervallum* sections
21 Phase 2B *Praetentura* plan
22 Phase 2B *Praetentura* sections
23 Phase 2B Central Range plan
24 Phase 2B Central Range sections
25 Phase 3 plan
26 Phase 3 defences plan
27 Phase 3 defences sections
28 Phase 3 internal features plan
29 Phase 3 internal features sections
30 Phase 4A plan
31 Phase 4A sections
32 Phase 4B plan
33 Phase 4B sections
34 Small finds
35 Pottery
36 Pottery
37 Pottery

20 plates and 15 tables

TOTAL, APPROX. 120 PAGES

Together with other investigations at Metchley, the results of the Area 18 excavations will be summarised and interpreted in the synthesis and overview of Metchley excavations 1963-2005, to form Volume 5 of Metchley excavations. This volume will also contain reports on Area 12 (Jones forthcoming b) and Area 20 (Jones in preparation a).

7.0: TASK LIST

The programme for full post-excavation analysis will run from May 2008 to June 2009. A detailed programme will be circulated in May 2008.

8.0: ACKNOWLEDGEMENTS

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Bryan, Alex Stevenson, Mark Kincey, Phil Mann, and Chris Pole. The illustrations were prepared by Nigel Dodds.

9.0: REFERENCES

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APPENDIX 1 WRITTEN SCHEMES OF INVESTIGATION

Archaeological Excavation

Metchley Roman forts, Birmingham
Queen Elizabeth Hospital Garage

1.0: INTRODUCTION

This document is based upon information provided by investigation in surrrounding areas within and adjoining Metchley Roman forts, and site meetings Jones/Towers and Jones/Hodder.

While the broad aims and methodology described in this document will be followed, certain specific details may require to be altered as further information becomes available. Such variations would be agreed in advance with the Planning Archaeologist of Birmingham City Council.

An archaeological excavation is required in advance of proposals to develop a new hospital on an adjoining site, and the proposed use of the garage area for car parking.

2.0: SITE LOCATION

The area proposed for excavation is located to the north of a service road, and to the south of Vincent House (see plan). The area for excavation presently comprises:

- The footprint of the former Queen Elizabeth Hospital Garage.
- An area of hardstanding used as parking for the Garage.

3.0: ARCHAEOLOGICAL BACKGROUND

Metchley Roman forts were occupied from approximately AD 48, initially by a detachment of legionary and auxiliary troops, forming a garrison of around 1,000 men, with an associated civilian settlement on its western side. Later the fort was extended by the addition of annexes on four sides. Subsequently, the garrison was reduced and the site functioned as a stores depot. Still later a smaller fort was constructed in the interior of the earliest defensive circuit, the smaller fort being abandoned in the later 1st century. The site may have functioned as a posting station (*mutatio*) or even a hostel (*mansio*) in the 2nd century, before being entirely abandoned by the Romans at the end of that century.

The area for excavation comprises a length of 30m of the western Phase 1-2 fort defences, which comprised double ditches and a turf rampart, and a 10m length of the western Phase 3 fort ditch. Within the Phase 1-2 fort interior the excavation includes a length of the western *intervallum*, where hearths and ovens may be anticipated, and part of the suggested alignment of the western *via sagularis*. Inside this road the excavation will sample the outer portion of the left *praetentura,* where timber-framed barrack-blocks and workshops may be anticipated. Additionally, it is possible that the Phase 4 north-south ditch and associated rampart identified to the north of Vincent Drive may continue southward, into this area.

4.0: EXCAVATION

4.1: Aims

The objective of the archaeological excavation is to preserve the remains of the Roman military defences and internal features and deposits by record in advance of development. In particular, the excavation will aim to:

- Provide details of the western defences of the Phase 1-2 and Phase 3 forts, including environmental evidence from dry or waterlogged deposits.
- Provide details of the industrial features within the western *intervallum* area.
- Contribute towards an appreciation of the Phase 1 layout of internal buildings within the *praetentura*, and of changes to that layout.
- Test the area for evidence of a possible continuation of the Phase 4 defences located to the north of Vincent Drive.
- Contribute towards an understanding of the overall chronology of the complex.
- Contribute towards an understanding of the pattern of military supply.

4.2: Method

The area to be excavated would be as marked on the attached plan.

Overburden would be removed by a tracked excavator with a toothless, ditching bucket, working under archaeological control. The overburden would be stored outside the excavated area for the duration of the excavation (ie the excavation would be undertaken as a single, uninterrupted operation).

The archaeological fieldwork would involve in turn:

- Manual cleaning, as appropriate, followed by base-planning of the machined surface.
- A monitoring meeting with the City Planning Archaeologist to define the precise excavation strategy.
- Hand-excavation of archaeological features and deposits, following that strategy.

Subject to the review, hand-excavation will involve:

- Discrete features (e.g. pits and post-holes), minimum 50% sample of each feature. Industrial features may require 100% samples.
- Ditches, sample of 30% by length (maximum of three segments, each 2m wide to be excavated)
- Structural features, 25-50% of beam-slots etc. by length.

Subsoil b-horizons would be removed by mini-digger, following appropriate testing by hand-excavation (eg, slots).

Human remains

No excavation of human remains would be undertaken except in accordance with the conditions of a Home Office Licence. The local Coroner would be informed.

Recording

Recording would be by means of pre-printed pro-formas for contexts and features, supplemented by plans (1:50 and 1:20 as appropriate), sections (1:50 and 1:20), and monochrome print and colour slide photography.

Finds

The finds will be cleaned, marked and bagged. Necessary conservation work would be undertaken. A metal detector would be used as an aid to finds recovery.

Environmental sampling

All datable Roman features and deposits will be sampled objectively for the recovery of charred or waterlogged plant remains.

The excavation edges would be battered, for safety. Thus, the full area shown on the plan will not be stripped to the archaeological horizon.

Duration

Minimum (4 weeks) or maximum (5 weeks). A contingency for bad weather is separately itemised in the costings.

5.0: STAFFING

The excavation would be Managed/Directed for Birmingham Archaeology by Alex Jones (Director/Research Fellow), with the assistance of a Site Supervisor, and five Archaeological Site Assistants.

Specialist staff would be:
Dr. Wendy Smith, waterlogged and charred plant remains
Jane Evans, Roman pottery
Stephanie Ratkai, post-Roman pottery
Erica Macey-Bracken/Roger White, small finds

6.0: REPORTING

Reporting would be undertaken in two stages.

The first stage of reporting would involve the preparation of a post-excavation assessment, in accordance with The Management of Archaeology Projects 2 (English Heritage), to include a site narrative, an appropriate level of illustrations (site plans), and specialist assessments of the finds and environmental data. Following approval from the Planning Archaeologist, the work programme outlined in the assessment would then be implemented in full.

The second stage of reporting would involve the preparation of a report for the Transactions of the Birmingham and Warwickshire Archaeological Society, including a site narrative, interpretation and discussion of the evidence, supported by appropriate finds/environmental specialist reports and a discussion and conclusion of the evidence. It is anticipated that the

report would form a chapter within a volume of reports concerning the forts, also describing the results of the 2003 (Laundry) and 2004 (Blue Box) excavations.

A short summary report would also be prepared for inclusion in *West Midlands Archaeology*.

7.0: ARCHIVE

The excavation archive will be deposited with an appropriate archaeological store, within a reasonable time of the completion of the fieldwork, and following consultation with the Planning Archaeologist.

8.0: GENERAL

All project staff will adhere to the Code of Conduct of the Institute of Field Archaeologists.

The project will follow the requirements set down in the Standard and Guidance for Archaeological Field Excavation prepared by the Institute of Field Archaeologists.

A Risk Assessment will be prepared prior to commencement of fieldwork.

Birmingham Archaeology 27 July 2004/DRAFT 1

WRITTEN SCHEME OF INVESTIGATION

Archaeological Excavation

Metchley Roman forts, Birmingham
Vincent House, Vincent Drive

1.0: INTRODUCTION

This document is based upon information provided by investigation in surrrounding areas within and adjoining Metchley Roman forts, and site meetings Jones/Towers and Jones/Hodder.

While the broad aims and methodology described in this document will be followed, certain specific details may require to be altered as further information becomes available. Such variations would be agreed in advance with the Planning Archaeologist of Birmingham City Council.

An archaeological excavation is required in advance of proposals to develop a new hospital and associated facilities.

2.0: SITE LOCATION

The area proposed for excavation is located to the south of Vincent Drive, and to the north of a hospital service road:

- The footprint of three linked prefabricated blocks: Vincent House.
- Adjoining lawned areas.

3.0: ARCHAEOLOGICAL BACKGROUND

Metchley Roman forts were occupied from approximately AD 48, initially by a detachment of legionary and auxiliary troops, forming a garrison of around 1,000 men, with an associated civilian settlement on its western side. Later the fort was extended by the addition of annexes on four sides. Subsequently, the garrison was reduced and the site functioned as a stores depot. Still later a smaller fort was constructed in the interior of the earliest defensive circuit, the smaller fort being abandoned in the later 1st century. The site may have functioned as a posting station (*mutatio*) or even a hostel (*mansio*) in the 2nd century, before being entirely abandoned by the Romans at the end of that century.

The area for excavation comprises:

- Part of the left *praetentura* of the Phase 1-2 fort.
- Part of the left side of the central range of the Phase 1-2 fort.
- A length of the western defences of the Phase 3 fort, and parts of the central range and *praetentura* of the Phase 3 fort.
- Lengths of the Phase 1-2 and Phase 3 fort internal roads.

4.0: EXCAVATION

4.1: Aims

The objective of the archaeological excavation is to preserve the remains of the Roman military defences and internal features and deposits by record in advance of development. In particular, the excavation will aim to:

- Provide details of the western defences of the Phase 3 fort, including environmental evidence from dry or waterlogged deposits.
- Provide details of the industrial features within the western *intervallum* area.
- Contribute towards an appreciation of the Phase 1 layout of internal buildings within the *praetentura* and central range, and of changes to that layout.
- Test the area for evidence of a possible continuation of the Phase 4 defences or internal features.
- Contribute towards an understanding of the overall chronology of the complex.
- Contribute towards an understanding of the pattern of military supply.

4.2: Method

The area to be excavated would be as marked on the plan attached to the evaluation report.

Overburden would be removed by a tracked excavator with a toothless, ditching bucket, working under archaeological control. The overburden would be stored outside the excavated area for the duration of the excavation (ie the excavation would be undertaken as a single, uninterrupted operation).

The archaeological fieldwork would involve in turn:

- Manual cleaning, as appropriate, followed by base-planning of the machined surface.
- A monitoring meeting with the City Planning Archaeologist to define the precise excavation strategy.
- Hand-excavation of archaeological features and deposits, following that strategy.

Subject to the review, hand-excavation will involve:

- Discrete features (e.g. pits and post-holes), minimum 50% sample of each feature. Industrial features may require 100% samples.
- Ditches, sample of 30% by length (maximum of three segments, each 2m wide to be excavated)
- Structural features, 25-50% of beam-slots etc. by length.

Subsoil b-horizons would be removed by mini-digger, following appropriate testing by hand-excavation (eg, slots).

Human remains

No excavation of human remains would be undertaken except in accordance with the conditions of a Home Office Licence. The local Coroner would be informed.

Recording

Recording would be by means of pre-printed pro-formas for contexts and features, supplemented by plans (1:50 and 1:20 as appropriate), sections (1:50 and 1:20), and monochrome print and colour slide photography.

Finds

The finds will be cleaned, marked and bagged. Necessary conservation work would be undertaken. A metal detector would be used as an aid to finds recovery.

Environmental sampling

All datable Roman features and deposits will be sampled objectively for the recovery of charred or waterlogged plant remains.

The excavation edges would be battered, for safety. Thus, the full area shown on the plan will not be stripped to the archaeological horizon.

Duration

8 weeks. A contingency for unexpected discoveries is separately itemised in the costings.

5.0: STAFFING

The excavation would be Managed/Directed for Birmingham Archaeology by Alex Jones (Director/Research Fellow), with the assistance of a Site Supervisor, Assistant Supervisor and twelve Archaeological Site Assistants.

Specialist staff would be:
Dr. Wendy Smith, waterlogged and charred plant remains
Jane Evans, Roman pottery
Stephanie Ratkai, post-Roman pottery
Erica Macey-Bracken/Roger White, small finds

6.0: REPORTING

Reporting would be undertaken in two stages.

The first stage of reporting would involve the preparation of a post-excavation assessment, in accordance with The Management of Archaeology Projects 2 (English Heritage), to include a site narrative, an appropriate level of illustrations (site plans), and specialist assessments of the finds and environmental data. Following approval from the Planning Archaeologist, the work programme outlined in the assessment would then be implemented in full.

The second stage of reporting would involve the preparation of a report for the Transactions of the Birmingham and Warwickshire Archaeological Society, including a site narrative, interpretation and discussion of the evidence, supported by appropriate finds/environmental specialist reports and a discussion and conclusion of the evidence. It is anticipated that the report would form a chapter within a volume of reports concerning the forts, also describing the

results of the 2003 (Laundry) and 2004 (Blue Box) excavations. It may be appropriate to include as a separate chapter in the report an overview of the results of fieldwork at the complex, from 1997 to 2004.

A short summary report would also be prepared for inclusion in *West Midlands Archaeology*.

7.0: ARCHIVE

The excavation archive will be deposited with an appropriate archaeological store, within a reasonable time of the completion of the fieldwork, and following consultation with the Planning Archaeologist.

8.0: GENERAL

All project staff will adhere to the Code of Conduct of the Institute of Field Archaeologists.

The project will follow the requirements set down in the Standard and Guidance for Archaeological Field Excavation prepared by the Institute of Field Archaeologists.

A Risk Assessment will be prepared prior to commencement of fieldwork.

APPENDIX 2: SPOT-DATING OF COARSEWARE POTTERY

Context	O06	O03.1	G06	G04	G05	F11?	N02.1	N0	Mudstone	F0	B02?	P0	C0	C05	Total coarseware	S01	A0	M0	Total Pot	Spot date
1010	15			1								1			17	2	1		20	AD 50-75?
1013																1	1		2	C1st
1014	279	1	19	2	4		5					5	1		316	11	29		356	AD 50-75?
1015	8						2								10				10	C1st
1016	16	9		1			1								27				27	C1st
1017	3														3	4			7	c AD 50-75?
1019	18	1													19		1		20	C1st
1021	1														1	1			2	Neronian/Flavian
1022	3	3													6				6	C1st
1026	1														1	1	13		15	C1st
1031	3		1								1				5	1			6	C1st
1032	30														30		1		31	C1st
1033																1			1	C1st
1034	5														5	2			7	Pre Flavian
1035				1											1				1	C1st
1037		1													1				1	C1st
1039	1														1				1	C1st
1044	17														17				17	C1st
1049	8														8	1	1		10	C1st
1054																1			1	Pre Flavian
1057	14														14	1			15	Pre Flavian
1058	5	1		2	2			8							18	1			19	Pre Flavian

1059	176	4	3		22	1		1	11			218	5	12	**235**	Pre-Flavian
1062	9											9	1		**10**	Pre Flavian
1064	1											1			**1**	C1st
1066	3											3			**3**	C1st
1067	4		1	1								6			**6**	C1st
1069	6		1					1		1		9	1		**10**	c AD 41-68
1071		1										1		2	**3**	C1st
1072	7											7	1		**8**	c AD 40-60
1074	4										2	6		21	**27**	C1st
1076	20							34				54		2	**56**	C1st
1078	10											10			**10**	C1st
1100	33	2	2		2	1			1			41	3		**44**	Before c AD 85
1101	1											1			**1**	C1st
1102	59	1	1	1	1			3				66		5	**71**	C1st
1109	10	3			2	1						16			**16**	C1st
1110													6	30	**36**	Pre-Flavian?
1111	33	37	6		4	10		1	1			92	2		**94**	C1st
1112													1		**1**	Pre-Flavian
1120	9											9			**9**	C1st
1123	7				2		1					10	1		**11**	C1st
1127	32				5	20						57	2	8	**67**	Pre-early Flavian
1129	7					1						8	1		**9**	C1st
1136	2											2			**2**	C1st
1142	22											22	1	4	**27**	C1st
1145														7	**7**	C1st
1158	11		2									13	4		**17**	Pre-early Flavian

1159	3									3	1			**4**	Pre-Flavian
1163	37							1		38		1		**39**	C1st
1166	67	10	6	4	1				2	90	5	41		**136**	c AD 50-75?
1168			1							1				**1**	C1st
1183	1		1				2			4				**4**	C1st
1184	11			1				1		13		1		**14**	C1st
1187	1		1							2				**2**	C1st
1200												4		**4**	C1st
1201	18	4	4	1						27	1	1		**29**	C1st
1209		6								6		2		**8**	C1st
1211	6	8	2							16		5		**21**	C1st
1212													1	**1**	C1st
1215	7									7				**7**	C1st
1217	5		2	4						11				**11**	C1st
1228	15									15				**15**	C1st
1231												3		**3**	C1st
1241						1				1				**1**	C1st
1247			4							4				**4**	C1st
1254	1									1				**1**	C1st
1258			1	1						2	1	1		**4**	Claudio-Neronian
1259			6							6				**6**	C1st
1260	7		1	2						10		2		**12**	C1st
1261			7							7	1			**8**	Flavian or later
1264			1							1				**1**	C1st
1265												1		**1**	C1st
1269												1		**1**	C1st

1274	7			9				17	1	34	3	25		**62**	Flavian
1277	19		1	2						22				**22**	C1st
1278	12		22		1					35				**35**	C1st
1280	18									18				**18**	C1st
1281												2		**2**	C1st
1287	4									4	1	1		**6**	Pre-Flavian
1293	6									6				**6**	C1st
1299											1			**1**	Neronian-early Flavian
1300						1				1				**1**	C1st
1301	1			1						2		1		**3**	C1st
1303	100		3							103				**103**	C1st
1306	28									28	1			**29**	Before c AD 85
1308	3									3				**3**	C1st
1309	44	1	48		2			3		98	2	9		**109**	Pre-Flavian
1310											1			**1**	Pre-early Flavian
1323	5		4							9				**9**	C1st
1345				1						1		1		**2**	C1st
1355	3	1								4				**4**	C1st
1372											1			**1**	Pre-early Flavian
1375							2			2				**2**	C1st
1382	2									2		24		**26**	C1st
1384	1									1				**1**	C1st
1406												1		**1**	C1st
1412												1		**1**	C1st
1415	215		10		8	3		2	8	246	10	22	1	**279**	Pre-Flavian
1418												1		**1**	C1st

1422		1								1			**1**	C1st
1424												1	**1**	C1st
1430	10			1		3				14		2	**16**	C1st
1441												1	**1**	C1st
1452	1		8							9			**9**	C1st
1462	6									6	3		**9**	Neronian-early Flavian
1465	1									1			**1**	C1st
1466	22				2	1				25			**25**	C1st
1472	73									73			**73**	C1st
1474	24									24			**24**	C1st
1495				2						2		2	**4**	C1st
1501										0			**0**	C1st
1540									1	1			**1**	C1st
1553	14									14	3		**17**	Before c AD 85
1554	1									1			**1**	C1st
1556								3		3			**3**	C1st
1558	7				3					10			**10**	C1st
1575			5							5			**5**	C1st
1576											4		**4**	Pre-Flavian
1577							1			1	2		**3**	Pre-Flavian
1579												6	**6**	C1st
1588			2							2			**2**	C1st
1591	3					3				6		11	**17**	C1st
1596												16	**16**	C1st
1598	17									17			**17**	C1st
1603						2				2			**2**	C1st

1605	15			1					16		1		**17**	C1st
1611	5		1				1		7				**7**	C1st
1613	2								2				**2**	C1st
1615				1					1		1		**2**	C1st
1636	1								1				**1**	C1st
1645											2		**2**	C1st
1646	1								1	4	1		**6**	C1st
1649	5							1	6				**6**	C1st
1666							1		1				**1**	C1st
1678	12								12				**12**	C1st
1680	1	3							4				**4**	C1st
1682	1	14							15		2		**17**	C1st
1690	1								1	1			**2**	C1st
1692	2								2				**2**	C1st
1708	10	1	4	1					16	1	1		**18**	Pre-Flavian
1710	3	15	4		3				25			2	**27**	C1st
1711	1		6	2			1	1	11	3	3		**17**	Pre-Flavian
1712	20	2					3	2	27	1	4	1	**33**	Pre-Flavian
1713	1								1	1	8		**10**	Before c AD85
1715	2				1	1			4		1		**5**	C1st
1718	8	1							9	1	1		**11**	C1st
1750	6								6				**6**	C1st
1777										1			**1**	Before c AD 85
1781	2		4						6		5		**11**	C1st
1802	1								1				**1**	C1st
1813						1			1				**1**	C1st

1826												1			**1**	C1st
2001	5									5					**5**	C1st
2008	2									2					**2**	C1st
2009	3									3				5	**8**	C1st
2013	2									2					**2**	C1st
2022	5						1			6					**6**	C1st
2031	5									5					**5**	C1st
2038	1									1					**1**	C1st
2040	2		5							7					**7**	C1st
2043					2					2					**2**	C1st
2049			4							4			4		**8**	C1st
2051		41								41					**41**	C1st
2067	5									5					**5**	C1st
2083	7	24								31					**31**	C1st
2085	3					2				5	2				**7**	Flavian
2107	2				1					3					**3**	C1st
2108		2								2					**2**	C1st
2135	3									3	1				**4**	C1st
2136	4								1	5	1	1			**7**	Pre-Flavian
2161	2		1							3					**3**	C1st
2168	9									9					**9**	C1st
2170	8									8	2				**10**	Neronian-early Flavian
2173										0		1			**1**	C1st
2192			6	1						7		2			**9**	C1st
2207	27									27					**27**	C1st
2212	49		8	6				7		70	4				**74**	Neronian-early Flavian

2214	20	5			5				30		5	**35**	C1st
2215	8								8	1		**9**	c AD 50-75
2216	27		1	5					33	1		**34**	Pre-Flavian
2224	49		3					2	54			**54**	C1st
2244										9		**9**	c AD 50-75
2247	2								2			**2**	C1st
2248	1								1			**1**	C1st
2270	2								2			**2**	C1st
2290				4				1	5			**5**	C1st
2291								3	3		2	**5**	C1st
2307	2								2	3		**5**	c AD 50-70
2310		1							1			**1**	C1st
2313	5								5			**5**	C1st
2314									0	1		**1**	Neronian-Flavian
2320	1		2			1			4			**4**	C1st
2331			1						1			**1**	C1st
2377	34								34			**34**	C1st
2379	3								3			**3**	C1st
2382					6				6			**6**	C1st
2425							1		1			**1**	C1st
2430				1					1			**1**	C1st
2463								3	3			**3**	C1st
2466			12						12			**12**	C1st
2493	3								3			**3**	C1st
2551	3								3	1		**4**	Pre-Flavian
2572	1								1			**1**	C1st

2638			2														2	3			**5**	Pre-Flavian
2657			2														2				**2**	C1st
2678	11																**11**				**11**	C1st
2680	3																3				**3**	C1st
U/S	14		2														16				**16**	C1st
no context?	7																7				7	C1st
Total	**2159**	**204**	**244**	**42**	**92**	**0**	**63**	**12**		**3**	**80**	**2**	**44**	**4**	**4**		**2953**	**140**	**370**	**14**	**3477**	

APPENDIX 3: LIST AND SPOT-DATING OF SAMIAN

Context Details

1010 29, SG, *c* AD 50-75?
1010 27, SG, 1st century

1013 dish 15/17R or 18R, SG, 1ST century

1014 29, SG, AD50-75?
1014 small cup, prob 24/25, SG, pre-Flavian, base
1014 prob 24/25, SG, pre-Flavian, larger base with low footstand and excoriated stamp
1014 15/17 (17?), SG, prob Claudian, pole fabric with brown slip
1014 27, SG, prob pre-Flavian
1014 18, SG, prob pre-Flavian
1014 5 scraps, SG, 1st century, very badly preserved, one burnt

1017 29, SG, Neronian - early Flavian
1017 27 (?), SG, pre or early Flavian, crumbling
1017 dish, SG, pre or early Flavian, slightly burnt
1017 just crumbs, SG, pre or early Flavian, probably from 27 above?

1021 15/17 or 18, SG, Neronian or Flavian, base fragment

1026 scrap (decorated?), SG, 1st century

1031 uncertain, SG, 1st century

1033 dish? Scrap, SG, 1st century

1034 15/17 or 18 and another fragment of same?, SG, pro pre Flavian

1049 scrap, SG, 1st century

1054 prob 15/17 or 18, SG pre-Flavian

1057 15/17 (R)?), SG, prob pre-Flavian

1058 uncertain scrap, SG, pre-Flavian

1059 15/17 or 18, SG, prob pre-Flavian, 2 frags footstand
1059 18?, SG, prob pre-Flavian, with iron staining?
1059 Dish scrap, SG, prob pre-Flavian, with iron staining?

1062 scrap, SG, prob pre-Flavian

1069 27, SG, Claudio-Neronian

1072 Ritt 9, SG, *c* AD 40-60

1100 29, SG, before cAD 85, base fragment

1100 scrap, SG, 1st century
1100 27, SG, prob pre-Flavian

1110 27, SG, pre-Flavian, bath with excoriated stamp
1110 27, SG, pre-Flavian, 6 n?? & other joining – probably same cup as above
1110 15/17, SG, pre-Flavian, slightly burned
1110 36, SG, pre-Flavian? 2 joining fragments of bowl with angular rim, cf Hermet 28, the form probably developed from the AD 60s, though most examples are Flavian – or late. The unusual form of rim may suggest an early example?

1111 uncertain, SG, 1st century, crumbling

1112 15/17, SG, pre-Flavian, slightly burnt

1127 29, SG, pre or early Flavian, ruin
1127 27, SG, prob pre Flavian, ruin of vessel, small cup

1129 scrap, SG, 1st century, slightly burnt?

1142 scrap, SG, 1st century

1158 15/17 or 18, SG, prob pre-Flavian, base fragment
1158 base (29???), SG, pre or early Flavian, crumbling
2 other crumbling fragments of which one shows possible signs of having been decorated. All 3 fragments could be from the same bowl – from 29 – but all very tentative!

1159 cup, SG, prob pre-Flavian, scrap

1166 29, SG, *c* AD 50-75?
1166 27, SG, Claudio-Neronian, rim fragment
1166 27, SG, prob pre-Flavian, (different cup)
1166 Ritt 9, SG, c AD 40-60
1166 15/17, SG, pre-Flavian

1201 cup, SG, 1st century

1258 cup (27?), SG, Claudio-Neronian, fabric as 1166 above

1261 18 or 18/31, SG, Looks Flavian at earliest

1274 24/25, SG, pre-Flavian
1274 18 or 18/31, SG, Flavian
1274 scrap, SG, 1st century, could be from one of the other vessels

1287 15/17, SG, prob pre-Flavian?, Heavily burnt

1299 27, SG, Neronian or early Flavian?

1306 29, SG, pre or early Flavian (before *c* AD 85), ruin scrap slightly burnt

1309 15/17 R, SG, prob pre-Flavian, 2 joining fragments

1310 prob 18R, SG, pre or early Flavian

1372 18, SG, pre or early Flavian, base fragment

1415 29, SG, prob pre-Flavian
1415 27, SG, Neronian, with high gloss
1415 27, SG, probably ditto, 3 rim fragment probably not from the same cup as above
1415 scrap, SG, 1st century, slightly burnt
1415 Ritt 12 (or ????? 11?), SG, pre (or early?) Flavian
1415 Ritt 8, SG, pre-Flavian, prob Claudian
1415 scrap, SG, prob pre-Flavian

1462 29, SG, Neronian – early Flavian?, lower zone with gadroom
1462 29, SG, Neronian – early Flavian?, 3 scraps ?? and upper zone.
Maybe same bowl as above
1462 15/17, SG, pre-Flavian
1462 4 red ware scarps – not Samian

1553 29?, SG, before *c* AD 85, 3 very badly abraded fragments, presumably of same vessel. May show traces of decoration.
1576 27, SG, prob pre-Flavian, 4 joining fragments

1577 27, SG, prob pre-Flavian, 2 joining fragments, probably same cup as 1576

1708 27g, SG, prob pre-Flavian, with traces of stamp OF.1[

1711 cup (27??), SG, pre-Flavian, body sherd
1711 cup?, SG, 1st century, soap, slightly burnt
1711 bowl or dish, SG, prob pre-Flavian, ?????

1712 15/17 or 18, SG, pre-Flavian

1713 29, SG, before *c* AD 85, footstand fragment

1718 scrap, SG, 1st century

1777 29?, SG, before *c* AD 85, decorated scrap

2085 37, SG, *c* AD 70+, two scraps
2085 18, SG, pre or early Flavian

2135 scrap, SG, 1st century

2136 24/25, SG, pre-Flavian, very small example

2170 29, SG, Neronian - early Flavian, with edge of stamp
2170 scrap, SG, 1st century

2212 29, SG, Neronian – early Flavian, two very abraded frags
2212 29, SG, Neronian – early Flavian, rim, burnt, from different bowl
2212 uncertain, SG, 1st century

2215 29, SG, prob *c* AD 50-75, slightly burnt

2216 24/25, SG, pre-Flavian

2244 29, SG, prob *c* AD 50-75
2244 29, SG, prob *c* AD 50-75, burnt
2244 29, SG, prob *c* AD 50-75, 3 sherds, one slightly burnt
2244 29, SG, prob *c* AD 50-75, ruin frag, small scrap – may be from same
2244 24/25, SG, pre-Flavian
2244 scrap, SG, has possibly been decorated
2244 The fragments of 29 are in too poor a state to say whether or not they are from the same bowl, but are likely to be of similar date

2307 24/25, SG, *c* AD 50-70, 3 fragments with stamp LIC[NUS] of Licinus

2314 uncertain (18??), SG, Neronian Flavian

2551 15/17, SG, prob. pre-Flavian

2638 27?, SG, prob. pre-Flavian, 2 joining sherds

2638 Possible traces of stamp? The edges may have been smoothed down after breaking to make smaller cup, though too abraded to be certain (or may have been 24/25)