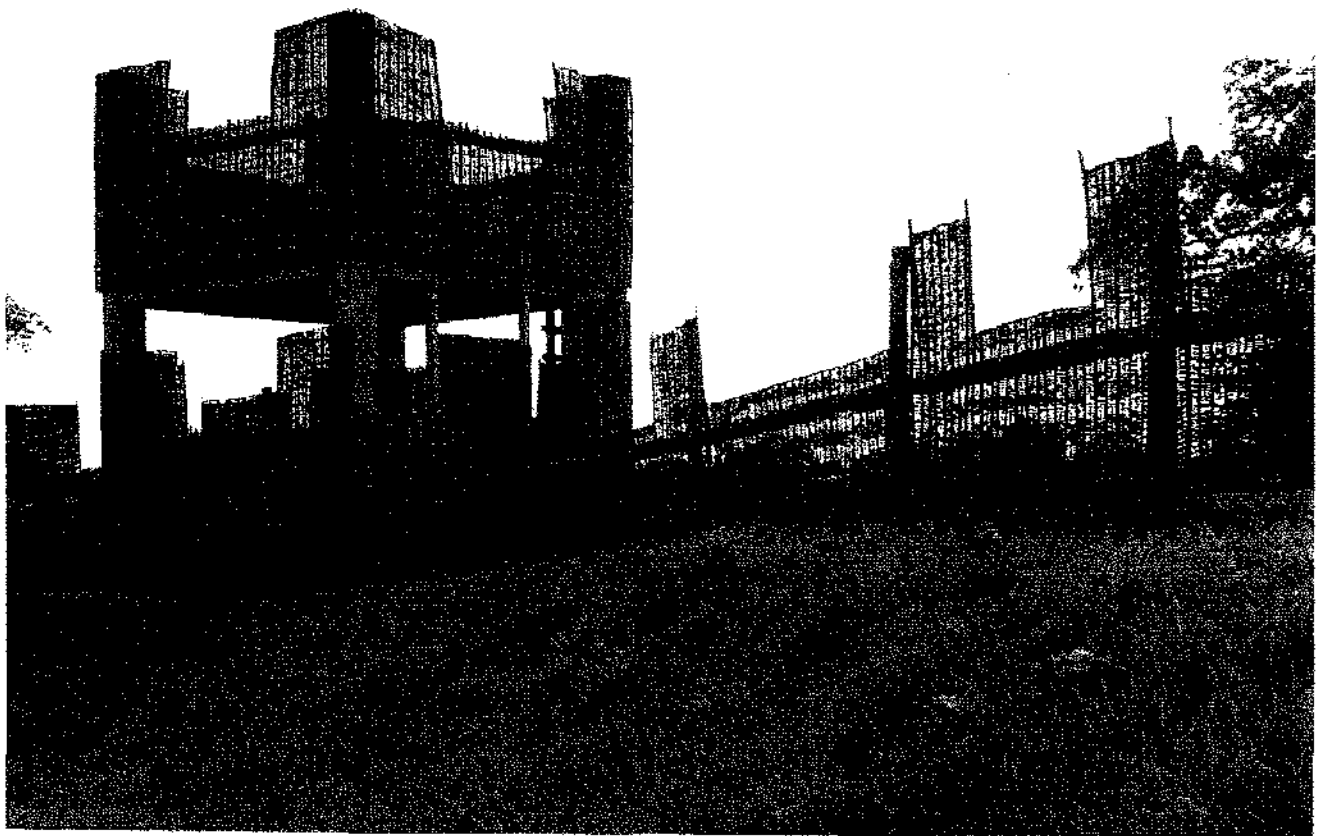




THE UNIVERSITY  
OF BIRMINGHAM

UNIVERSITY HOSPITAL,  
BIRMINGHAM NHS TRUST

ARCHAEOLOGICAL EVALUATION  
1999  
AREAS A AND B



*Birmingham University Field Archaeology Unit*

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*B.U.F.A.U.*



Birmingham University Field Archaeology Unit  
**Project No. 617.02**  
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**University Hospital Birmingham NHS Trust**  
**Archaeological Evaluation 1999**  
**Areas A and B**

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ARCHAEOLOGICAL EVALUATION 1999**

**AREAS A AND B**

**1.0: SUMMARY**

This report describes the results of an archaeological evaluation within part of the complex of Roman forts at Metchley, Birmingham, conducted in advance of proposals for a new hospital development. A total of ten trial-trenches was investigated within Areas A and B. The evaluation was undertaken in tandem with a desk-based assessment which also examined other areas affected by the development proposals. The results of evaluation immediately outside the fort complex (Area C) are described in a separate report.

In Area A the trial-trenching tested the eastern defences of the Phase 1-2 and Phase 3 forts, and also identified the presumed western defences of a hitherto unidentified fort, represented by a single ditch and rampart. Also recorded was a number of internal features, including beam-slots, hearths, ovens and pits probably associated with the Phase 1-2 fort. Such internal features were also identified as surviving within areas previously archaeologically investigated in the 1960s. In Area B trial-trenching identified the well-preserved remains of a timber-framed granary, together with an overlying destruction deposit, which was in turn cut by a group of hearths or ovens backfilled with burnt clay. No archaeological features or deposits were found elsewhere in Area B, possibly because of modern disturbance.

The trial-trenching produced a total of 190 sherds of pottery, mainly dating to the Neronian and early-mid Flavian periods. The assemblage included samian, amphorae and locally-produced wares. Typical forms included Malvernian tubby cooking pots and storage jars, and sherds in organic-tempered ware, both handmade and wheelmade and grog-tempered ware.

**2.0: INTRODUCTION**

**2.1: Background**

This report describes the results of an archaeological evaluation of land located within Metchley Roman forts (centred on NGR. SP 044838, Figs. 1-2), sited to the north and south of Vincent Drive, partly within the campus of the University of Birmingham and partly within the headquarters complex of the South Birmingham Mental Health NHS Trust. Part of the fort complex, located outside the areas evaluated, is a Scheduled Ancient Monument (West Midlands S.A.M. No. 1). Birmingham University Field Archaeology Unit was commissioned to undertake the evaluation by the University Hospital Birmingham NHS Trust, in advance of a proposed hospital development. The evaluation was undertaken in accordance with the guidelines contained in Planning Policy Guidance Note 16 (Department of the Environment, November 1990), and Policy 8.36 of the Birmingham Unitary Development Plan. The

methodology of the evaluation conforms to a Written Scheme of Investigation prepared by BUFAU (BUFAU 1999). The fieldwork and reporting has been undertaken in accordance with the 'Standard and Guidance for Archaeological Field Evaluation' (Institute of Field Archaeologists 1994).

The archaeological evaluations, and the more extensive desk-based assessment, considered all areas potentially affected by the hospital development proposals and together form the archaeological component of the environmental assessment of the new hospital development which will be summarised in the Environmental Statement, and are also detailed in a separate report (Jones 1999a). The archaeological evaluation was mainly concentrated within the defences and interior of Metchley Roman forts, and in the zone adjoining their western defences. This evaluation report describes the results of trial-trenching to the north of Vincent Drive (Area A), and to the south of Vincent Drive (Area B), within or immediately adjoining the fort defences. The results of an evaluation of other land to the south of Vincent Drive, located wholly outside the fort defences (Area C), are reported separately (Jones 1999b). Evaluation of land within the Scheduled Ancient Monument was outside the scope of the trial-trenching. In addition to the areas (A-C) evaluated by trial-trenching the desk-based assessment also included consideration of the archaeological potential of a number of built-up areas within the proposed development and of land to the south of the Bourne Brook. These areas were excluded from the scope of the archaeological evaluation, most notably for reasons of health and safety in the case of the land to the south of the brook.

The Roman fort complex at Metchley (Fig. 1) was identified from cartographic sources, antiquarian descriptions, and, more recently, by excavation. The fort defences, still surviving as above-ground features in the 18th century were mapped and described in detail at that time. Limited slit-trenching of the visible earthworks in the 1930s confirmed that the earthworks belonged to a complex of Roman forts (St. Joseph and Shotton 1937). Later, the defences were further excavated, partly as a preliminary to a partial reconstruction of the rampart and ditches (Webster 1954). Large-scale area investigations by Rowley (1967, 1968, 1969) were mainly concentrated in the fort interior, and identified a number of timber-framed buildings, including temporary structures and fenced compounds, although some limited investigation of the fort defences was also undertaken at that time.

Rowley identified four main military phases at Metchley. Phase 1 comprised the excavation of a roughly square fort enclosing approximately 4ha., defended by double ditches and a turf rampart. The fort interior contained two partly-excavated barrack-blocks, one of which was a double barrack-block, together with a granary, workshop and a possible store-building. Later the fort was extended by the addition of a ditched annexe to the north (Phase 2A). The Phase 1 buildings in the fort interior were demolished, and replaced by temporary structures, including fenced compounds and a group of hearths associated with ironworking (Phase 2B). Subsequently, after a period of abandonment, the site was re-occupied (Phase 3) and a smaller fort, enclosing 2.6ha, was constructed in the Phase 1-2 fort interior. The original turf-revetted rampart of this latest fort was later reconstructed with a timber revetment, but few contemporary structures within the interior of this latest fort have been identified by

excavation. The site was probably first occupied around AD 48, and may have been finally abandoned by the military around AD 75.

The Rowley excavations will shortly be published, together with the results of excavations on the southern fort defences and within the adjoining internal areas in 1996-7 (Jones forthcoming). More recent fieldwork at Metchley, undertaken during 1998-9 (Jones 1999c; Jones in preparation a), examined a newly-discovered eastern annexe containing a zone of industrial activity, represented by ovens and hearths. The most recent excavations at the forts, undertaken in summer 1999 (Jones in preparation b), investigated the defences and interior of a southern annexe, first identified from map sources (Jones 1995), and also examined the southeastern corner of the Phase 1-2 fort. The ditched defences of two further probable forts, constructed on new alignments, have also been identified to the southeast of the main fort complex.

A summary of the known archaeology within the current evaluation areas is presented below. The desk-based assessment (Jones 1999a) contains full details. Briefly, Area A contains parts of the western and northern defences of the Phase 1-2 and Phase 3 forts. Area B includes part of the western defences of the Phase 1-2 and Phase 3 forts. Within the forts' interiors, Area A comprises part of the left *retentura* (see Appendix 1 for a glossary of the Latin terms used in this report) where barrack-blocks are usually located. The southern part of Area A, and Area B, would have comprised the left side of the forts' central ranges which would have contained granaries, and possibly the *principia* and the *praetorium*. The *intervallum* area located immediately to the rear of the forts' defences (in Areas A and B) would have contained traces of hearths and ovens, associated with breadmaking or ironworking.

For simplicity in the following account it is assumed that the main axis of the forts is north-south, although the maps and drawings remain labelled with compass north. This report is illustrated with a selection of the plans and sections prepared during the fieldwork. Further details may be found in the archive, which it is proposed to deposit with Birmingham City Museum and Art Gallery, subject to permission from the landowners.

## 2.2: Aims

The overall aim of the evaluation was to provide information concerning the extent, dating, survival and significance of the archaeological deposits potentially affected by the development proposals.

The detailed aims of trial-trenching in Areas A and B were as follows:

- 1) To locate the ditched defences of the Phase 1-2 and Phase 3 forts accurately on the ground, and to assess the potential survival of the ditches and other defensive features, including evidence for the possible protection from later disturbance afforded by the Phase 3 fort rampart to earlier internal features.
- 2) To assess the survival and potential archaeological significance of the internal features, including timber-framed structures, roads, rubbish-pits, and industrial hearths/ovens.

- 3) To consider the evidence for a possible civilian settlement and/or a military annexe or other features, to the west of the forts (Area A only).
- 4) To assess the potential of the environmental data associated with datable deposits, paying particular attention to waterlogged, or possibly waterlogged, deposits.
- 5) To test the potential of the area to contain evidence of prehistoric activity.
- 6) To consider the evidence of post-medieval activity in the area, including any possible evidence for the post-medieval re-use of surviving Roman military features (e.g. ditches).
- 7) To assess the survival and potential significance of the internal features, in particular the administrative buildings located within the forts' central ranges (Area B only).

### **3.0: METHODOLOGY (Figs. 1-2)**

Since no detailed layouts of the proposed hospital development was available, it was decided to target the trial-trenches as widely as possible within Areas A and B. The location of trial-trenches in Area A was constrained by Tree Preservation Orders. The areas of the Scheduled Ancient Monument to the north of Area A, and the immediately adjoining zone, was excluded from trial-trenching. In Area B trial-trenching was necessarily restricted by existing buildings, the need to retain main vehicular accesses for emergency vehicles, and to avoid live services. The trench plan was devised to provide as representative a sample of the buried archaeology as was possible, and also to attempt to establish the degree of sub-surface disturbance caused by differing modern land-uses. It was also intended to determine the potential for the survival of archaeological features within the areas previously archaeologically excavated in the 1960s.

The areas trial-trenched within Area A mostly comprised ornamental lawns, although some trenches were also located in adjoining, overgrown areas. Trial-trenches were dug within Area B in lawned areas, and into tarmac hardstandings. Topsoil and modern make-up deposits in each trial-trench were removed by a mechanical excavator with a toothless ditching bucket, working under archaeological supervision. Machining exposed the uppermost archaeological horizon or the subsoil. The machined surface was then hand-cleaned and base-planned. All subsequent excavation was by hand, and involved the selective sampling of features sufficient to define their form and preservation, and to recover datable finds and environmental data. Excavation of feature intersections and of stratified horizontal deposits was outside the scope of the trial-trenching. A metal detector was used as an aid for finds recovery. 20 litre soil samples for general biological analysis were collected from a selection of datable features, with particular attention being paid to waterlogged, or possibly waterlogged, deposits.

Areas A and B were not suitable for alternative evaluation strategies, such as fieldwalking or geophysical survey because of the modern land-use.

Recording was by means of pre-printed pro-formas for features and contexts. Contexts (comprising the topsoil, subsoil, overall layers and feature fills) were recorded in a



four digit numerical sequence. Features (such as ditches, beam-slots, pits, post-holes and upcast material, such as ramparts and stone surfaces) were recorded in a three digit numerical sequence, prefixed by an 'F'. Plans were prepared at scales of 1:20 and 1:50, and sections were drawn at scales of 1:10 and 1:20 as appropriate. The evaluation trenches were also recorded photographically. Trial-trench locations were established using a Total Station EDM.

## **4.0: RESULTS**

### **4.1: Introduction**

Description of the trial-trenches (in numerical order) is followed by a summary of the finds and dating evidence, and an interpretative section.

### **4.2: Objectives**

Trenches A1, A6 and parts of Trenches A2 and A5 were cut outside the western perimeter of the fort defences, to test the archaeological potential of this zone to contain further, outer defensive features, and/or evidence of a civilian settlement. Trenches A2 and A3 were located to intercept the western defences of the Phase 1-2 and Phase 3 forts. Trenches A4A-B and part of Trench A3 were located within the interiors of the Phase 1-2 and Phase 3 forts, to test the survival of internal features. Trenches A3 and A4A/B were located within the area archaeologically excavated in 1968-9, to assess the survival and extent of unexcavated features. Trial-trenching in Area B investigated the archaeological potential of the left side of the forts' central ranges (Trenches B1-B3), and the area adjoining the western defences (Trench B4).

### **4.3: Area A**

#### **Trench A1** (Not illustrated)

Trench A1 measured 15m by 1.6m, and was aligned northwest-southeast. This trench was positioned at the base of a west-facing slope.

#### Description

The natural subsoil, here comprising an orange sand-clay (1001), was recorded at a depth of 0.1m below the modern ground surface. A modern disturbance (1002), containing quantities of modern brick rubble, was recorded at the southeastern end of the trench, but was not excavated. The subsoil was overlain by dark brown sand-silt topsoil (1000). No archaeological features were identified in this trench and no finds were collected.

#### Interpretation

The modern disturbance (1002) adjoined Vincent Drive and was probably associated with its construction.

### Trench A2 (Fig. 3)

Trench A2 measured 20m by 2m, and was aligned southwest-northeast. The trench was positioned on a gentle west-facing scarp. All the recorded features were cut into the subsoil, here comprising an orange clay-sand (1102).

#### Description

The earliest feature identified towards the northeastern end of the trench was a flat-based ditch (F203), aligned approximately north-south, but its full profile was not recorded because of later disturbance. Ditch F203 was backfilled with orange-brown sand (1120). It may have been re-cut slightly to the west (F202), but following the same alignment. This later ditch was U-shaped in profile, and was backfilled with sand (1116-1119). Subsequently, a broad, flat-based ditch (F200) was cut to the east, truncating ditches F202 and F203. Ditch F200 measured a maximum of 3.5m in width, and 0.6m in depth. Ditch F200 was backfilled with silt-sands (1114-5) and brown sandy soil (1104-5). Backfilled ditches F200, F202 and F203 were sealed by a layer of sand (1103), which may have been truncated by an undefined, possible feature backfilled with large, rounded pebbles (1113).

A north-south aligned ditch cut to an irregular, V-shaped profile (F201) was located towards the centre of the trench. This ditch measured a maximum of 4.5m in width and 1.4m in depth. It was backfilled with red-orange sand (1107, 1111-2). This ditch may have been contemporary with a gully (F204), located to the west of the ditch and dug parallel with it. The gully was backfilled with orange-brown clay (1108), sealed by a layer of red-orange sand (1106), which also extended to the east, overlying layers 1107 and 1111 and infilling the uppermost hollow in ditch F201. The southwestern edge of gully F204 was cut by a possible ditch (F205) which was only partly recorded within the trench. This ditch was backfilled with sand (1121-2), sealed by brown soil (1109-1110).

#### Finds and dating evidence

Ditch F200 contained pottery datable to the Neronian or mid-late Flavian periods. Ditch F201 produced undiagnostic Roman pottery.

#### Interpretation

Ditches F205 and F201 may be interpreted as respectively defining the outermost and innermost ditches along the western side of the Phase 1-2 fort. Feature F204 may be interpreted as an associated palisade gully. If this interpretation is correct, it is most likely that the gully was cut by a re-cut of the outer ditch, and not by the original ditch cut. No trace of an associated rampart was found towards the northeastern end of the trench, possibly because of disturbance by features F200 and F202-3. This ditch group may have represented an original ditch (F200), and two re-cuts (F202-3), dug approximately following the alignment of the western defences of the Phase 1-2 fort. The position and alignment of these excavated features corresponds with unexcavated

ditch F305 (Trench C3, see below). If, as is probable, feature F305 was associated with a rampart (F300, see below), positioned to its east, the northeastern ditch group in Trench A2 may be interpreted as defining the ditch of a hitherto unidentified fort, positioned between the outer Phase 1-2 fort and the inner, Phase 3 fort. However, the profiles of this northeastern Trench A2 ditch group appear to have few parallels among the excavated military defences at Metchley. Alternatively, it is possible that ditch group F200 and F202-3 may be interpreted as representing features cut on the western edge of the new defensive ditch line (F305) whose full width could not be fully investigated in Trench A2.

The stony layer in Trench A2 (1113) may be equivalent to a similar deposit (F306: unexcavated) in Trench A3 to the north, interpreted as a trackway or path.

### Trench A3 (Fig. 4)

Trench A3 measured a total of 53m in length and 2m in width. This trench was extended to a width of 4m within the interior of the Phase 1-2 fort, to assist in the definition of any structures and other internal features present. The trench was aligned southwest-northeast. For clarity the fort defensive ditches and the internal features are described separately. The features in this trench were cut into the orange-red silt-sand subsoil (1201).

#### Description

The easternmost ditch located (F301) was aligned north-south, a similar orientation to the other ditches identified. Ditch F301 was cut through backfilled features F312-4 (see below) and the subsoil (1201). It was V-shaped in profile, measuring a maximum of 4.5m in width and 1.3m in depth. The primary fill was a red, waterlogged, sand-clay (1210), sealed by a dark grey silt (1209), overlain by a brown clay-silt (1208). Towards the east of the trench were two ditches (F305 and F307: unexcavated) and the extreme northeastern edge of a third ditch (F315), exposed at the extreme southwestern end of the trench. The easternmost of these ditches (F305) measured 6.5m in width and was backfilled with dark brown silt (1211), containing large quantities of charcoal and Roman pottery. This backfill appeared to have been overlain by a dump of large rounded cobbles (F306), although the relationship between these two features was not tested by hand-excavation. Further to the southwest was ditch F307, which measured 4.7m in width, and was backfilled with red-orange sand-silt (1213). The uppermost backfill of possible ditch F315 was an orange-red sand-gravel (1221).

To the northeast of ditch F305 were two post-holes (F308, F309), measuring an average of 0.6m in diameter, sealed by a deposit of orange-brown sand-silt flecked with charcoal (F300, 1202: S.1, Fig. 4) aligned north-south, and overlying the subsoil (1201). Deposit F300 measured an average of 0.15m in depth, and 8.3m in width.

Possibly one of the earliest features identified within the forts' interiors was a circular pit (F302), backfilled with grey-brown sand-silt (1203). It was cut by a beam-slot (F304), cut to a U-shaped profile. It measured 0.05m in depth and 0.35m in width, and

was backfilled with orange-grey silt (1205) containing occasional charcoal flecking. The beam-slot was cut by a curvilinear, possible beam-slot (F303), backfilled with grey silt (1204), whose western terminus adjoined pit F302. The northeastern terminals of two parallel gullies (F312-3: S.3, Fig. 4) and an adjoining, mis-aligned gully (F314) were also recorded. The terminals of gullies F312-3 were cut by a roughly circular pit (F311, S.2, Fig. 4), backfilled with orange-brown silt (1217). Pit F311 was in turn cut by the southeastern terminus of a further, curvilinear gully (F310), backfilled with brown-orange silt (1216).

A number of slight hollows (not illustrated) was also recorded in the uppermost surface of the subsoil. The backfilled features and deposit F300 were overlain by the modern topsoil (1200), which contained pockets of building rubble, and measured between 0.2m to 0.6m in depth.

#### Finds and dating evidence

The hand-collected pottery from the surface of unexcavated ditch F305 included a high proportion (37%) of wares of 'native' origin. The assemblage included storage or cooking jars and amphorae. Pit F311 contained 29 sherds from a Malvernian tubby cooking pot, three sherds of samian and three amphora sherds.

#### Interpretation

As discussed above features F315 and F307 may be interpreted as representing the outermost and innermost defensive ditches along the western side of the Phase 1-2 fort (also defined as features F205 and F201 in Trench A2 respectively). Feature F306, interpreted above as a trackway, appeared to have been located along the line of a slight natural ridge. The land sloped gently downwards to the northeast, while the natural scarp in the opposing direction was more pronounced. As is also discussed above, unexcavated ditch F305 defined a hitherto unidentified fort, also represented by feature F300, which may be interpreted as the base of a truncated turf rampart. Finally, ditch F301 may be interpreted as the western ditch of the Phase 3 fort. No trace of the associated rampart, or of any timber revetment, could be identified. If the underlying features (F308-9) are associated with the Phase 1-2 fort, this potential new fort would post-date its abandonment.

Feature F304, recorded for a length of approximately 6m, may be interpreted as a Phase 1 fort beam-slot. This feature, which was also identified in Rowley's excavations in 1968-9, probably defined the northern side of Phase 1 barrack-block Structure 3.1, which was later re-used in Phase 2B Structure 3.4, and is interpreted as a stores-building. Feature F304 was cut by a curvilinear slot (F303), which may be attributed morphologically to one of the temporary structures associated with the Phase 2B stores depot. The remaining features identified comprised Phase 1-2B pits and gullies, located close to the western *intervallum* area of the Phase 1-2B fort and probably associated with industrial activity, possibly ironworking, including adjoining features F312-4 which were cut by the Phase 3 fort ditch.

An alternative interpretation is that cobble spread F306 formed a path constructed in the post-medieval period. The line of a trackway in the approximate position of the Phase 1-2 fort's western defences is represented on early Ordnance Survey mapping.

The topsoil contained debris derived from adjacent building, or which may have been incorporated into the backfill of the 1968-9 excavation areas.

#### Trenches A4A-B (Fig. 5)

Trenches A4A and A4B both measured 4m in width and were aligned roughly north-south. The trenches were separated to avoid mature trees and a live service. Trenches A4A and A4B measured 5m and 10m respectively in length.

#### Description

The natural subsoil in Trench A4A comprised a yellow-orange sand with clay patches (1303) which appeared to dip to the northeast. Two possible circular features (F400, F401: unexcavated), appeared to be cutting the subsoil. Both measured approximately 0.4m in diameter and were backfilled with dark brown soil. The topsoil (1300) measured between 0.1m and 0.3m in depth.

The subsoil in Trench A4B comprised an orange-brown sand-clay (1315). The identified features were cut into the subsoil. A sample of the beam-slots and other features revealed by hand-cleaning of the machined surface was hand-excavated. East-west aligned beam-slot F402 (S.1), towards the southern end of the trench measured 0.5m in width and 0.2m in depth. To the north were two joining beam-slots (F404: S.2), together forming an L-shape. Further beam-slots, each forming an L-shape in plan (F405, F407), were also recorded but not excavated. With the exception of feature F402, the beam-slots were very shallow, measuring no more than 0.02m in depth. Feature F402 was backfilled with grey silt (1304), but the remainder of the beam-slots were backfilled with brown silt. The remaining features in the trench comprised possible hearths (F406, F408: S.3 and F409: S.4). Hearth F406 (unexcavated) measured 0.5m in diameter and was backfilled with charcoal-flecked silt (1309). Hearth F408 (previously half-sectioned) measured 0.5m in diameter and was backfilled with brown silt (1311). The largest hearth (F409) was irregularly-shaped in profile and was backfilled with grey-black silt (1312).

The subsoil was overlain by patches of brown gravelly soil (1305, 1306, 1314). A possible service-trench (F410: not illustrated), cutting diagonally across the trench, was also recorded but not excavated.

#### Finds and dating

Deposits 1305, 1306 and 1314 contained post-medieval pottery. No Roman pottery was collected.

## Interpretation

Trenches A4A and A4B were wholly located within areas previously archaeologically excavated in 1968-9. The features identified in Trench A4A comprised possible hearths or ovens. A number of similar ovens was excavated by Rowley towards the western edge of the Phase 1-2 fort. These features were probably associated with the Phase 2B use of the site as a stores depot. The remaining features identified in that trench (F402, F404, F406 and F407) comprised the bases of heavily-truncated beam-slots. These may have defined internal walls within the excavated barrack-block Structure 4.1 (Jones forthcoming), dug in 1968. The further hearths or ovens (F406, F408, F409) identified in Trench A4B were probably internal to, and associated with, that building. Deposits 1305, 1306 and 1314 may be interpreted as the disturbed remains of the gravel floors of the internal rooms within the barrack-blocks excavated by Rowley in this part of the fort interior. During backfilling of the excavation areas in 1968, this gravel may have become mixed and disturbed, and dumps of building rubble incorporating bricks and concrete fragments were also mixed into the topsoil.

### Trench A5 (Fig. 5)

#### Description

Trench A5 measured 14m by 1.6m and was aligned approximately east-west. The subsoil comprised an orange sand-silt (1401), recorded at a depth of 0.2m below the modern surface. Probably the earliest features in this trench comprised a north-south aligned ditch (F505), and a parallel gully (F502), although the relationship between these features was destroyed by later features (F503, F504). Ditch F505 was probably V-shaped in profile, although its full width was not recorded because of later disturbance (F504). Ditch F505 measured a maximum of 0.9m in depth and was backfilled with sand (1422-3), sealed by clay-sand (1421). This layer was overlain by a deposit of red-orange sand-clay (1420) which also extended to the east of the ditch, overlying the subsoil. A slight depression or the cut of an undefined feature, backfilled with deposit 1420 was recorded within the subsoil. The gully (F502) was U-shaped in profile, measuring a maximum of 1m in width and 0.3m in depth. This feature was backfilled with sand-clay (1407, 1409). This gully may have been re-cut slightly to the east (as F503). This re-cut was irregularly-shaped in profile and measured a maximum of 1.1m in width and 0.4m in depth. It was backfilled with brown silt-sands (1406, 1408) which appeared to have been disturbed by root action. Backfilled features F502-3 were sealed by a layer of brown-red clay-soil (1405).

Backfilled ditch F505 towards the eastern end of the trench was sealed by brown clay soils (1416-1419), together measuring an average of 0.6m in depth. Ditch F504 was cut through these deposits and into backfilled features F503 and F505. Ditch F504 was cut to a U-shaped profile, following the predominant north-south alignment, and measured a maximum of 3m in width and 1.1m in depth. A vertically-sided, possible post-hole (F506: not illustrated), measuring 0.2m in diameter, was dug into the base of this ditch. The ditch was backfilled with grey-brown sand-silts (1410-5), the uppermost backfill layer (1410) also extending to the east of the feature. In the extreme west of the trench was a shallow, north-south aligned possible gully (F500),

backfilled with red-grey clay-sands (1402-3). The eastern edge of this gully was truncated by a shallow modern disturbance (F501). Layers 1405 and 1410, and backfilled features F500-1, were sealed by the modern topsoil (1400) which measured between 0.3m and 0.05m in depth in the east and west of the trench respectively.

#### Finds and dating evidence

Feature F505 contained eight coarseware sherds which are not closely datable within the Roman period. Layers 1400, 1405, 1416-1419 and features F500-1 and F504 contained post-medieval pottery and clay pipe fragments.

#### Interpretation

Ditch F505 formed part of the outermost defensive ditch of the Phase 1-2 fort on its western side (also recorded as feature F205 in Trench A2, and as unexcavated feature F315 in Trench A3). The innermost ditch and the western rampart of this fort lay outside the area excavated. Possibly associated features F502 and F503 could have formed outer palisade gullies. The root disturbance recorded in feature F503 could suggest that it contained a thornset hedge, or, alternatively, that it was otherwise disturbed by root action. It is also perhaps possible that the disturbance backfilled with deposit 1420 on the inner side of this ditch could represent a further defensive palisade.

Dumped deposits 1416-1419, which overlay backfilled ditch F505, may be interpreted as 'night soil', and incorporated post-medieval pottery. Later ditch F505 was cut slightly to the west of ditch F504. This re-cut may be associated with the use of the area as a hunting park. The ditch could have formed one side of a game pen. Other examples of Roman ditches similarly re-cut during the 18th-century have been excavated (Jones 1999c). Feature F506 dug into the base of the ditch may have been a post-hole retaining a fence upright. The function of the post-medieval features (F500-1) in the west of the trench is unknown.

#### Trench A6 (not illustrated)

Trench A6 measured 10m by 2m and was aligned approximately northwest-southeast, adjoining Trench A1 (see above). The orange sand-silt subsoil in Trench A6, recorded at a depth of 0.15m below the modern surface, was sealed by the topsoil (1450). No archaeological features were recorded in this trench, except for plough-scars, and no finds were collected.

### Trench B1 (not illustrated)

Trench B1 measured 6m by 1.6m and was aligned approximately north-south. The natural subsoil, here comprising an orange-red sand-silt (1502), was recorded at a depth of 0.7m below the modern surface. The subsoil was sealed by modern make-up deposits comprising orange sand-gravel (1502) and orange-sand (1501), both incorporating quantities of building debris, the latter recorded immediately below the modern tarmac car park surface (1500). No archaeological features were recorded in this trench, and no artifacts were collected.

### Trench B2 (Fig. 6)

Trench B2 measured 9m by 4m and was aligned approximately east-west.

#### Description

The natural subsoil, a mottled yellow-orange silt-sand (1651) containing iron-panning, was recorded at a depth of 0.8m below the modern ground surface. The subsoil, exposed in the eastern half of the trench by a combination of hand- and mechanical excavation, was cut by beam-slots (F750-F752), all approximately aligned north-south, but none cut exactly parallel. The easternmost of these features (F750: unexcavated) measured 0.3m in width and was backfilled with mottled grey-orange silt (1652). Beam-slot F751 to the west measured an average of 0.6m in width. It was backfilled with silts (1653-4). Both features F750 and F751 slightly broadened towards the south of the trench. To the east lay a further beam-slot (F752) which may have joined an east-west aligned beam-slot (F753), although the point of intersection between these two features was not investigated. Beam-slot F752 was backfilled with mottled orange silts (1655 and 1656). Backfilled features F750-3 were sealed by a layer of charcoal-flecked grey silt (1657: S.2-3). This layer was probably equivalent to unexcavated deposit 1658 recorded in the eastern half of the trench.

In the extreme east of the trench deposit 1657 was cut by six hearths or ovens (F754: S.2; F755-F759: S.3) of differing size. Features F754 and F755 together formed a right-angle in the northeastern corner of the trench. Both were backfilled with burnt red clay, flecked with charcoal (1659 and 1660 respectively). The remaining features of this group were sealed by a deposit of light grey clay (1661), which also extended beyond the features, overlying deposit 1657. Above layer 1661 was a discontinuous layer of charcoal (1662), which was sealed by a layer of red clay backfill (1663), also containing charcoal fragments. Hearth or oven F758 was backfilled with a deposit of charcoal-rich brown clay-silt (1664). The backfilled features and deposits 1657-8 were sealed by the topsoil (1650).

#### Finds and dating

Beam-slot F751 produced six sherds of pottery, including a jar fragment and a sherd of amphora, both dating to the 1st century.



## Interpretation

Although not exactly dug parallel, roughly north-south aligned beam-slots F750-2 may be interpreted as defining part of a timber-framed granary belonging to the Phase 1-2 fort. These features were also slightly irregularly-spaced. The raised floor of this building would have been supported upon vertical timber posts jointed into the timber ground-beams. Part of a further contemporary granary was excavated to the north of Trench B2, also on the left side of the central range of the forts' interiors (Jones forthcoming). Although the relationship between joining beam-slots F752-3 was not investigated, it is possible that the latter could have formed part of a loading-platform, in which case beam-slot F752 would have defined the eastern side of the building. The profile and fill sequence of beam-slot F751 suggest that it may have been partially re-cut, possibly during Phase 2B. This possible re-cut, if mis-aligned with the original cut of beam-slot F751, could explain the apparent mis-alignment of the three north-south aligned beam-slots. Layer 1657-8, overlying the granary, was a destruction deposit, recorded elsewhere within the fort interior, associated with the deliberate clearance of the Phase 1 internal structures prior to the layout of the Phase 2B stores-depot. This deposit was both cut and overlain by a group of hearths or ovens backfilled with red clay, which was probably associated with ironworking. Similar examples located towards the western defences of the Phase 2B fort have also been excavated to the north of Vincent Drive (Jones forthcoming).

### Trench B3 (not illustrated)

Trench B3 measured 9m by 1.6m and was aligned approximately southwest-northeast. The natural subsoil, a red-orange clay-sand (1701), was recorded at a depth of 0.2m below the modern surface. The subsoil was sealed by the topsoil and turf (1700). No archaeological features were recorded in this trench, and no artifacts were collected.

### Trench B4 (not illustrated)

Trench B5 measured 2m square. The subsoil in this trench comprised an orange sand (1804), recorded at a depth of 0.8m below the modern surface. The subsoil was sealed by modern make-up deposits composed of brown clay-soil (1803, 1802), in turn overlain by the stone foundation layer (1802) of the modern car park surface (1800). No archaeological features were recorded in this trench, and no artifacts were collected.

## **5.0: SPECIALIST REPORTS**

### **5.1: Pottery** by Jane Evans

The evaluation produced 190 sherds of pottery (Trench A2, 72 sherds; Trench A3, 104 sherds; Trench A5, 8 sherds; Trench B2, 6 sherds), in fabrics similar to those found during Rowley's excavations in the left *retentura* (roughly equivalent to evaluation Area A: Green *et al.* forthcoming). The more closely datable sherds, in particular the samian, indicated a period of activity between the Neronian and early-mid Flavian

periods. The amphorae included a Dressel 20 handle which, based on its form, had a similar mid-1st century date. The absence of forms dating diagnostically to the Flavian-Trajanic period, for example rusticated jars, also supported the date range indicated by the samian. The majority of the assemblage, however, could only be dated broadly to the 1st century. Typical 1st century types included Malvernian tubby cooking pots and storage jars; body sherds in organic-tempered ware, both handmade and wheelmade; and grog-tempered ware. The latter included a substantial rim from a large storage jar found in feature F305 (Trench A3), similar to types published from Phase 2B features excavated by Rowley (Green *et al.* forthcoming, fig. 35.JS2, JS3). The majority of the evaluation assemblage, however, comprised, a range of oxidised (82 sherds) and reduced (33 sherds) coarse wares. Identifiable forms in these included a dish similar to one published from a Phase 2B feature excavated by Rowley (*op. cit.* fig. 37.B22), a couple of flagon sherds, part of a lid, jars, and a single mortarium base, probably locally made.

The pottery by trench

#### Trench A2

This trench produced 72 sherds, the majority of which came from ditch F200 (64 sherds). This was a well-dated group, containing seven of the eight sherds of samian recovered overall. The primary fill, layer 1105, produced five sherds of samian. Two were identifiable as from a form Dr 29 bowl, dated Neronian to early-or-mid Flavian periods. The fill above (1104) produced 35 sherds, including two sherds of samian. These were identifiable as from a form Dr 24/25 cup, most likely pre-Flavian in date, and a form Dr 27 cup in South Gaulish samian, dating broadly to the 1st century. A range of forms was represented in the coarse wares, including a typical, 1st century Malvernian tubby cooking pot. Layer 1101 and feature F200 (1101) produced ten and 14 sherds respectively, which are not closely datable. The range of fabrics from layer 1101 differed from the other layers, however, which could indicate a slightly later date. The assemblage as a whole contained samian and included other typically 'Romanised' forms: amphorae, flagons and dishes. In contrast, the proportion of typically 'native' types was low, all in Malvernian ware.

The only other feature to produce Roman pottery was ditch F201 (eight sherds). No finds were recovered from the primary fill (1112). Feature F201 (1107) produced only five sherds, none of which was very diagnostic, and layer 1006 produced two sherds, and three sherds of possibly intrusive post-medieval pottery.

#### Trench A3

Trench A3 produced 104 sherds. The largest group came from layer 1211 in ditch F305 (54 sherds). The sherds in this group were large, and it seems likely that they were deposited in the ditch promptly after the vessels went out of use. The group seemed more utilitarian in character than the assemblage from feature F200 in Trench A2. Wares of 'native' origin represented 37% of the assemblage. Forms included: jars used for storage or cooking; amphorae, including a first century Dressel 20 handle;

and two sherds of white colour-coated ware, possibly from a flagon. No samian was present, nor were any other typical tablewares, apart from the flagon.

The remaining pottery came from internal features. Pit F311 (1217) produced 21 sherds, all from a handmade Malvernian tubby cooking pot, and feature F300 (1202) produced 29 sherds, including a sherd of samian, three amphorae sherds, and a range of other coarsewares.

#### Trench A5

Feature F505 (1421) produced eight sherds of coarseware, none of which was closely datable within the Roman period, and an intrusive post-medieval clay pipe stem.

#### Trench B2

Feature F751 (1653) produced six sherds of pottery, including the rim of a grog-tempered jar and a sherd of amphorae, all compatible with a 1st century date.

#### Significance

Considering the limited excavation of the features identified, within an evaluation context the assemblage is fairly large. Evaluation and excavation of the West Car Park site, for example, produced only 403 sherds (Hancocks forthcoming). The condition of the pottery from some of the features, particularly F305 (Trench A3), was good. The contrast between the assemblages from ditch F200 in Trench A2 and ditch F305 in Trench A3 is of particular interest, especially since both these features formed the innermost defensive ditch of the Phase 1-2 fort. Should further excavation be undertaken, it might be possible to differentiate between 'Romanised' assemblages associated with the fort, and more utilitarian, 'native' assemblages associated with the *vicus*.

No other Roman, or possibly Roman finds were recovered.

#### **5.2: Charred plant remains** by Wendy Smith

Datable features in Trenches A2, A3 and B2 were sampled for charred plant remains. The samples were processed and the flots examined to determine if the features contained charred plant remains, other bio-archaeological remains, such as charcoal or bone, and also to determine if the charred plant remains (if any) merited further analysis.

#### Method

The four samples were processed by bucket flotation. Flots (the material which floated) were sieved to 500 micron and the heavy residues (the material which did not float) were washed over a 1 mm sieve. The flots and heavy residues were air dried and sorted at between x10 and x15 under a low-powered binocular microscope.

Identifications were made rapidly and without consultation of a reference collection and, therefore, should be considered tentative in all cases.

## Results

The results for all four samples are listed in Table 1. The samples from features F201 (1107) and F301 (1209) did not contain any charred plant remains. The sample from feature F200 (1104) contained large quantities of charcoal and small quantities of charred cereal grains (primarily identified as barley) and goosefoot (*Chenopodium* sp.) seeds. The sample from beam-slot F751 in Trench B2 contained large quantities of charcoal, but only small amounts of charred grains (primarily identified as barley) and goosefoot (*Chenopodium* sp.) seeds were observed. The charred plant remains recovered from each of the samples did not occur in sufficient quantity to merit full archaeobotanical analysis.

**TABLE 1: The charred plant remains**

Trench	Feature	Context	Feature Type	Sample Volume	Comments
A2	F200	1104	Ditch	21L	<b>Flot:</b> modern root present. Abundant remains of charcoal. Small amounts of cereal grain (primarily hulled barley, <i>Hordeum</i> sp.) and some charred goosefoot seeds ( <i>Chenopodium</i> sp.).  <b>Heavy residue:</b> Primarily gravel, pebbles and small cobbles. Small amount of charcoal. No bone or seed observed. <b>Evaluation: POOR</b>
A2	F201	1107	Ditch	20L	<b>Flot:</b> primarily modern root. Small amount of charcoal observed. No charred plant remains observed.  <b>Heavy residue:</b> Primarily gravel, pebbles and small cobbles. Small amount of charcoal. No bone or seed observed. <b>Evaluation: POOR</b>
A3	F301	1209	Ditch	19L	<b>Flot:</b> primarily modern root. Small amount of charcoal observed. No charred plant remains observed.  <b>Heavy residue:</b> primarily gravel, pebbles and small cobbles. Small amount of charcoal. No bone or seed observed. <b>Evaluation: POOR</b>
B2	F751	1653	Beam-slot	20L	<b>Flot:</b> +++ charcoal. Charred hazelnut shell, hulled barley and some weed/wild seeds (unidentified small seeded wild grass and goosefoot ( <i>Chenopodium/Atriplex</i> ) observed. Small amount of modern root observed. <b>Evaluation: POOR</b>

## Conclusion

On the basis of this analysis, none of the feature fills sampled shows much potential for charred plant remains. It may be that these ditches were re-worked or suffered later disturbance, which may have affected preservation of charred material in these features.

### 5.3: Waterlogged deposits

A sample from the only waterlogged, or possibly waterlogged, deposit recorded in Areas A and B, the basal fill (1210) of ditch F301 in Trench B3, was collected and processed to determine the possible presence of beetles or waterlogged plant remains. No such remains were found to be present.

## 6.0: DISCUSSION

### 6.1: Pre-Roman

No features or artifacts of prehistoric, or possible prehistoric, date were identified.

### 6.2: Fort defences

The western defences of the Phase 1-2 and Phase 3 forts were identified and hand-excavated. The double-ditched defences of the Phase 1-2 fort were complemented by a central palisade gully (F204, Trench A2), and also by a probable external palisade gully (F502, F503, Trench A5). No trace of Roman re-cutting could be found, presumably because re-cutting had entirely removed the earlier ditch fills. The profile of inner ditch F201 (Trench A2) suggests that it could have been a *fossa punica*. The profile of the outermost ditch (F505, Trench A5) was more regular. No trace of the contemporary rampart could be located, due to later disturbance (F305, F306).

Of particular interest was the identification of a hitherto unidentified defensive line, represented by repeatedly re-cut ditches (F200, F202, F203). It is possible that these ditches represent no more than re-cuts adjoining a broader ditch (see F305, Trench A3), since the full width of this feature could not be defined in Trench A2. The association between unexcavated ditch F305 and the band of orange-brown sand-silt (F300, 1202), interpreted as the base of a truncated turf rampart, supports the identification of this new defensive line. Within the confines of narrow trial-trenches it is not possible to accurately plot the alignment of the western side of this suggested new fort. Recent excavations adjoining the southeastern corner of the Phase 1-2 fort (Jones in preparation b) have identified segments of the double ditched defences of two hitherto unidentified double-ditched forts (not illustrated on Fig. 1). One was cut on the same north-south alignment as the Phase 1-3 forts, but was located by excavation to their south. The second was dug on a northwest-southeast alignment. The fort newly identified by trial-trenching, and the two new excavated fort defences, highlight the complexity of the Roman military sequence at Metchley. Although the chronology of these new forts remains to be established. Since rampart F300 (Trench

A3) overlies backfilled features presumably belonging to the Phase 1-2 fort, it is reasonable to suggest that this fort could have either pre- or post-dated the Phase 3 fort.

The western ditch of the Phase 3 fort (F301, Trench A3) was identified, although no trace was found either of the western rampart or of any associated features, such as post-holes.

### 6.3: Internal features

The main area investigated by trial-trenching in the fort interior comprised the left *retentura*. The areas investigated were mainly previously excavated in the 1960s. Trench A4B investigated part of the interior of the double barrack-block first identified by Rowley in 1968, and also successfully identified the truncated remains of associated beam-slots and internal hearths. Floor surfaces had not survived *in situ*. The northern wall (F304) of barrack-block Structure 3.1 (Jones forthcoming) was the principal internal feature identified in Trench A3. Some of the other internal features identified in that trench, including pits and gullies, may be associated with the western *intervallum* area of the Phase 1-3 forts, where hearths or ovens associated with small-scale ironworking or breadmaking could be anticipated.

The identification of a probable granary (Trench B2) is an important addition to our understanding of the plan of the Phase 1-2 fort's central range which has been comparatively little investigated. If associated, beam-slot F753 could have defined part of a loading-platform. The Trench B2 granary would have been the southernmost of a pair. The northern edge of the northernmost granary was excavated in 1968 to the north of Vincent Drive (Jones forthcoming). Both granaries were probably constructed on longitudinally-placed beam-slots. No details were provided of other buildings within this range, such as the *principia* or *praetorium*, because of modern disturbance (Trench B1).

Also of interest was the possible evidence for the re-cutting of beam-slot F751, suggesting re-use or adaptation of this structure, possible during the Phase 2B use of the site as a stores depot. Trial-trenching in the central range has also provided further details of the function of this area within the Phase 2B stores depot. A group of hearths was located overlying the charcoal-rich destruction deposit (1657-8). It is possible that two types of hearths could be represented here. The first type being represented by cut features (e.g. F754-5, F759). The second type, represented mainly by above-ground deposits of burnt clay and charcoal, with a slight central depression (F756-8), may represent the remains of hearths mostly constructed above-ground. This latter group of features is paralleled by spreads of burnt clay infilling slight hollows, also identified during Rowley's excavations (Jones forthcoming).

Investigation of the fort's *praetentura*, an area which has not been studied in detail since 1967, was outside the scope of the Area A and B field evaluation.

Since it is not always possible to relate the fort defences to the associated internal features, the identification of further potential defensive circuits by evaluation and

excavation raises an element of uncertainty concerning the correct attribution of the internal features to the correct defensive circuit. For example, the very slightly mis-aligned, barrack-blocks Structures 3.1 and 4.1 in the left *retentura* are presently interpreted as being contemporary (Jones forthcoming), although this is not necessarily correct in the light of the new information provided by the evaluations and the concurrent excavation.

### **6.5: External features**

No evidence was found in Trenches A2, A5-6 for any outer military defences, ditched fort annexes, or of any features associated with an adjoining civilian settlement. However, the areas available for investigation to the west of the fort defences were admittedly limited.

Attention has been drawn in the pottery report to the groups of 'native' wares, found in particular in Trench A2, which could derive from a civilian settlement. Trenching in 1963 within the area surrounding Trenches A5-6 produced a group of copper alloy objects, which provided the first, albeit tentative evidence for the existence of a civilian settlement at the site (Webster forthcoming).

The recent trial-trenching in Area C (Jones 1999b) to the south of Vincent Drive has provided the first clear evidence for the existence of a civilian settlement at Metchley - comprising metallated surfaces, associated spreads of occupation deposits, boundary ditches, and possible post-holes, dated to the pre-Flavian period. This settlement occupied a relatively flat plateau to the west of the fort defences, adjoining a road entering the fort's western gate. It is possible that the area presently to the north of Vincent Drive (within Area A), which was located towards the base of a gently west-facing slope, adjoining a palaeochannel (Jones 1988-9) to the west, may have been considered unsuitable for settlement.

### **6.5: Post-Roman activity**

No evidence of medieval activity could be identified. Evidence of post-medieval activity was limited to a possible 18th-century re-cut (F504) of the outer ditch of the Phase 1-2 fort. As discussed above, the re-cut may have been associated with the use of the area as a hunting park. The Roman fort ditch fills appear to have been comparatively little disturbed by more recent activity.

## **7.0: SIGNIFICANCE AND SURVIVAL**

### **7.1: Significance**

The significance of the discoveries can be summarised as follows:

- Trial-trenching has identified a hitherto unknown defensive circuit, which, together with the other newly-identified defensive features excavated in late 1999, provides further elements of complexity in the military occupation of the Metchley site, inviting comparison with other military complexes where an extended sequence of military activity has been identified either by excavation and/or air photograph analysis, for example Penkrudge/Kinvaston and Wall (both Staffordshire).
- Given this evidence for further, hitherto unknown, phases of military activity at the site, the attribution of internal features to the main defensive phases needs to be undertaken with particular care.
- In addition to the four main phases of military activity at Metchley, the newly-identified defences suggest a maximum of three further phases of military activity may be present, totalling seven phases in all. This new data provides new insights into the nature of the military occupation of the site, which is also of relevance to the study of early Roman military deployment in the Midlands and beyond.
- The identification of a further granary (Trench B2) on the left side of the fort's central range is an important addition to our knowledge in an area of the fort that has been comparatively little investigated.
- Trench B2 has also provided a useful insight into the Phase 2B use of the left side of the central range. The often haphazard nature of the Phase 2B stores depot internal fort layout, and the comparative rarity of the excavated features belonging to this phase, highlight this new data as being of particular importance.
- Although the environmental data recovered was of limited academic significance, further, more extensive archaeological investigations elsewhere in Areas A and B could lead to the recovery of significant environmental data.
- The sequence of Roman backfills within Phase 1-3, and the newly-identified ditches, appear to have been relatively little disturbed by later activity. No data concerning the survival of the fort defences in Area B could be obtained.
- In places a sequence of internal features belonging to successive phases could be identified, separated by horizontal destruction deposits (e.g. Trenches A3, B2). These structural sequences could provide important details concerning the fort's structural history, which could enable further interpretation of the changing garrison and functions of the site. Within the individual trial-trenches it was seldom possible to adequately phase the structural and other internal features.
- The identification of new defensive phases, together with very well-preserved structural remains, further heightens the potential of the site for the public interpretation of its archaeology. The proximity of a reconstructed northwestern segment of the northern annexe further increases the potential of the northern sectors of the forts for public display and interpretation.



## 7.2: Survival and the effects of development

The key information provided concerning feature survival is summarised below:

- The sequence of Roman deposits within the defensive ditches was generally undisturbed by later activity. Traces of the western rampart (F300) of the newly-discovered fort were found, although no trace survived of the Phase 1-2 and Phase 3 fort's western rampart.
- Some localised areas of sub-surface disturbance could be observed outside the areas previously investigated. These areas are not anticipated to be extensive.
- Some truncated internal features survived within areas which have been previously investigated, although no horizontal stratigraphy could be observed here.
- On the left side of the forts' central ranges an exceptionally high degree of feature survival was recorded (Trench B2), including a horizontal destruction deposit. In total three phases of activity were represented in this trench. Over at least part of the remainder of the central ranges the survival of internal features is anticipated to be poor.

Because of the limitations necessarily imposed by the modern land-use, no investigations were undertaken of the western fort defences within Area B.

If the archaeological mitigation strategy for this part of the development involves preservation *in situ*, design details must specify that a sufficient depth of overburden/topsoil be left on the site to act as a 'buffer' between the buried archaeological deposits and the movement of heavy plant and machinery during development. Geotextile membranes may be usefully employed to separate new deposits from others. Additionally, attention should be paid to the possibility of damage to the archaeology caused by compression, or de-watering of the deposits.

If no further archaeological excavation is to be undertaken within some of the areas trial-trenched, resources should be provided by the Hospital Trust to enable a full programme of post-excavation analysis of the evaluation results to be undertaken, leading to publication of the results in a recognised archaeological journal.

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## **APPENDIX 1: Glossary of terms used**

All definitions after Johnson (1983, 34-5)

**Central range.** The central third of the fort interior. Housed the administrative buildings of the fort, including the headquarters building (*principia*), the commanding officer's house (*praetorium*), granaries, and possibly a hospital.

*Intervallum.* An open space between the rear of the rampart and the built-up part of the fort interior. Contained cookhouses, latrines, ovens and hearths.

*Praetentura.* The front third of the fort interior, running from the *via principalis* to the front gate. Contained barrack-blocks, stables and store-buildings.

*Retentura.* The rear third of the fort interior, from the *via quintana* to the rear gate. Contained barrack-buildings, stables and store-buildings.

*Vicus.* A civilian settlement located outside the fort gates, but under military control. Usually established for trade with the military.

*Fossa punica.* A ditch with a more steeply-sloping outer face providing additional defence from attack (Johnson 1983, fig. 26).

## APPENDIX 2: LEVEL INFORMATION

All heights in metres AOD

### DATUM VALUES

<i>Section No.</i>	<i>Feature/s</i>	<i>Trench</i>	<i>Value</i>
S.1	Fig. 3. F200-F205.	A2	146.84
S.1	Fig. 4. F300.	A3	147.35
S.2	Fig. 4. F310, F311.	A3	147.30
S.3	Fig. 4. F312-F314.	A3	147.38
S.1	Fig. 5. F402.	A4B	147.13
S.2	Fig. 5. F404.	A4B	147.19
S.3	Fig. 5. F408.	A4B	147.12
S.4	Fig. 5. F409.	A4B	147.37
-	Fig. 5. F500-F502, F504-F505.	A5	146.77
S.1	Fig. 6. F752.	B2	146.27
S.2	Fig. 6. F751, F754.	B2	147.04
S.3	Fig. 6. F755-F759.	B2	147.00

### HEIGHTS of TRENCHES WITH ARCHAEOLOGICAL DEPOSITS

<i>Trench</i>	<i>Highest and lowest levels of uppermost subsoil horizon.</i>
A2	146.29 - 147.74
A4A	145.32 - 147.43
A4B	146.93 - 147.58
A5	145.67 - 146.01
B2	146.35 (top of deposit 1663)

Note: Depths of archaeological deposits above subsoil.

Trench A3, F300 (Rampart), see Fig. 4, S.1.

Trench B2, 1663, see above.

Trench B2, 1657/8, see Fig. 6, S.2.

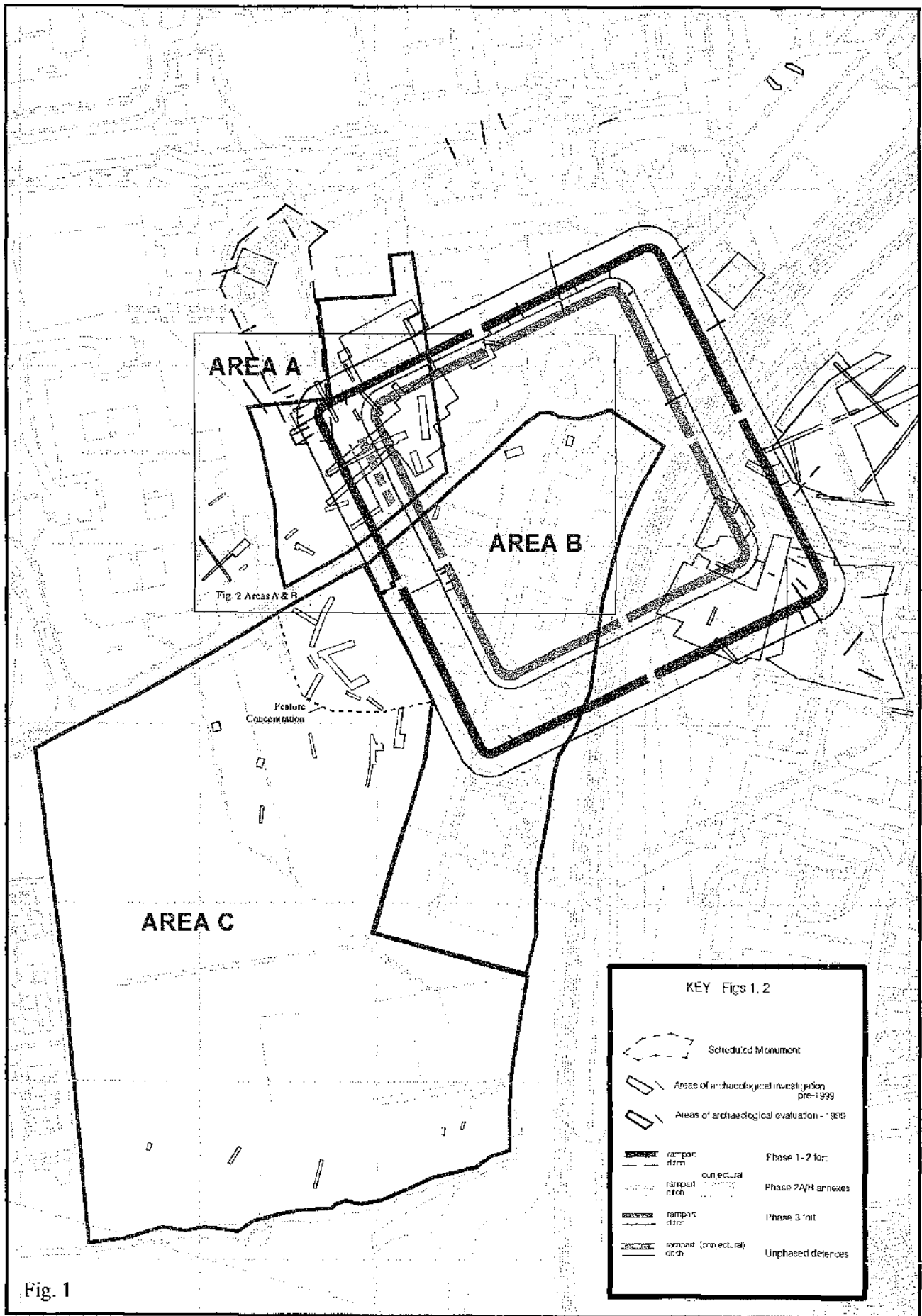


Fig. 1

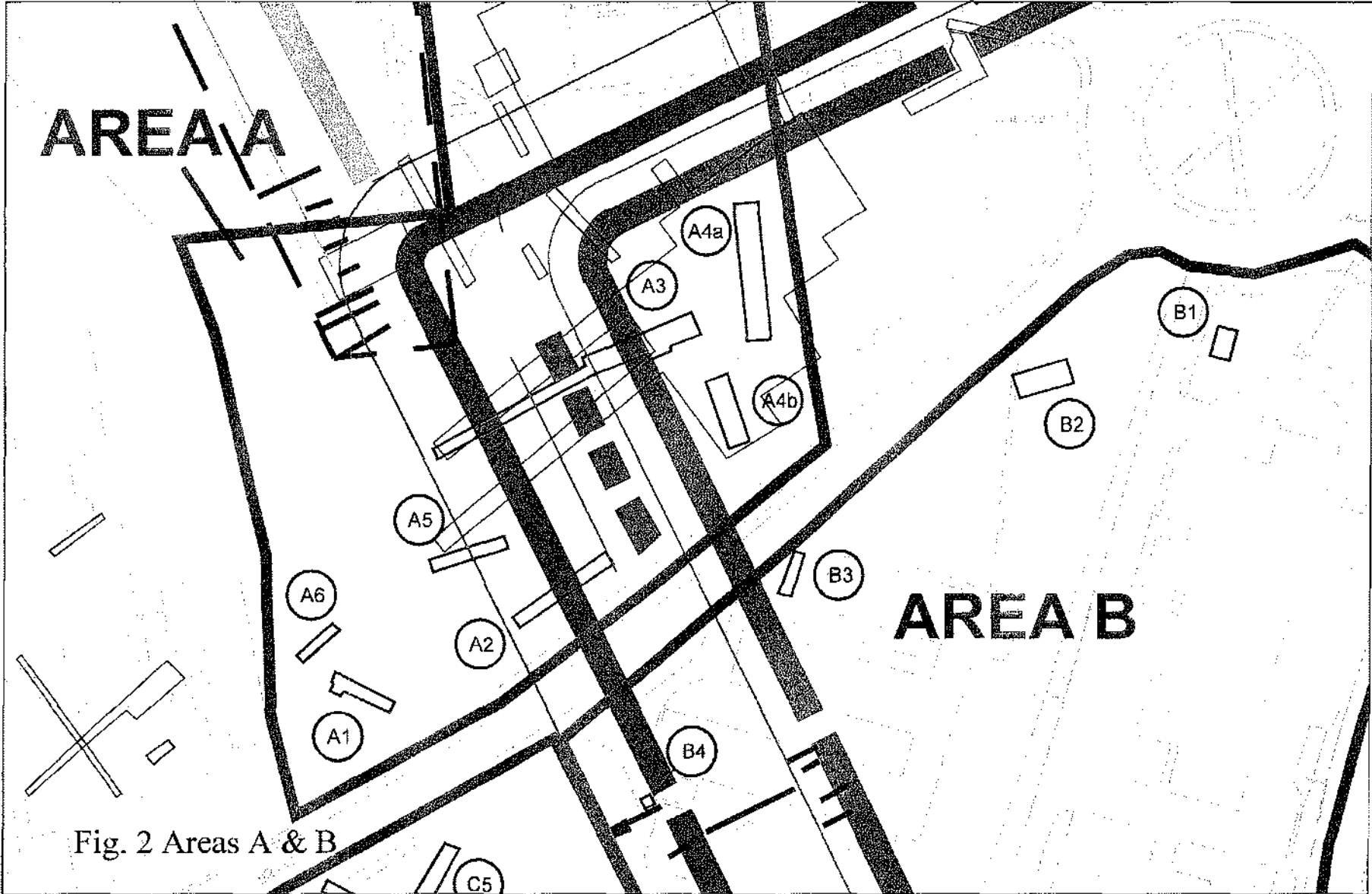


Fig. 2 Areas A & B

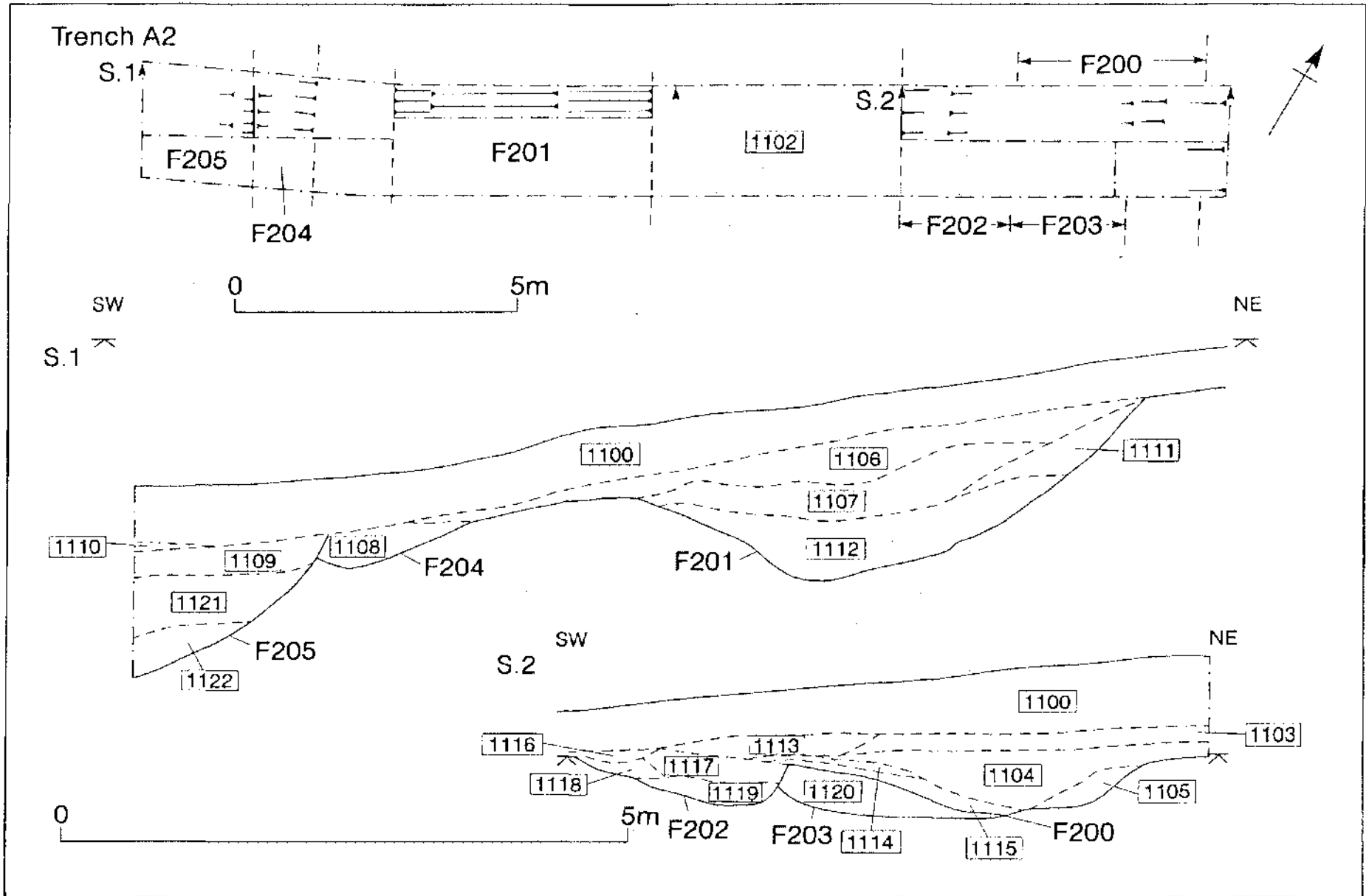


Fig.3



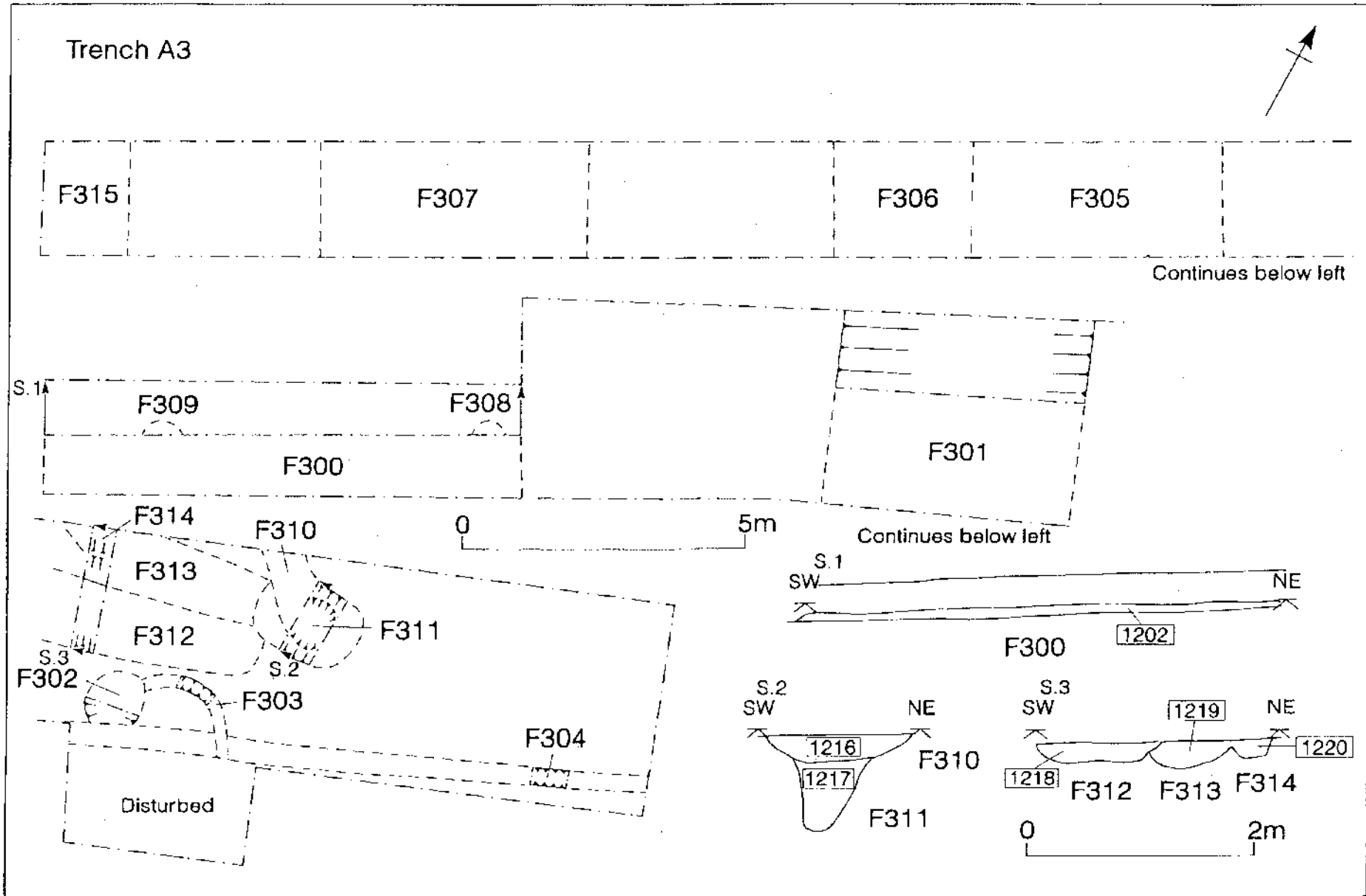


Fig.4

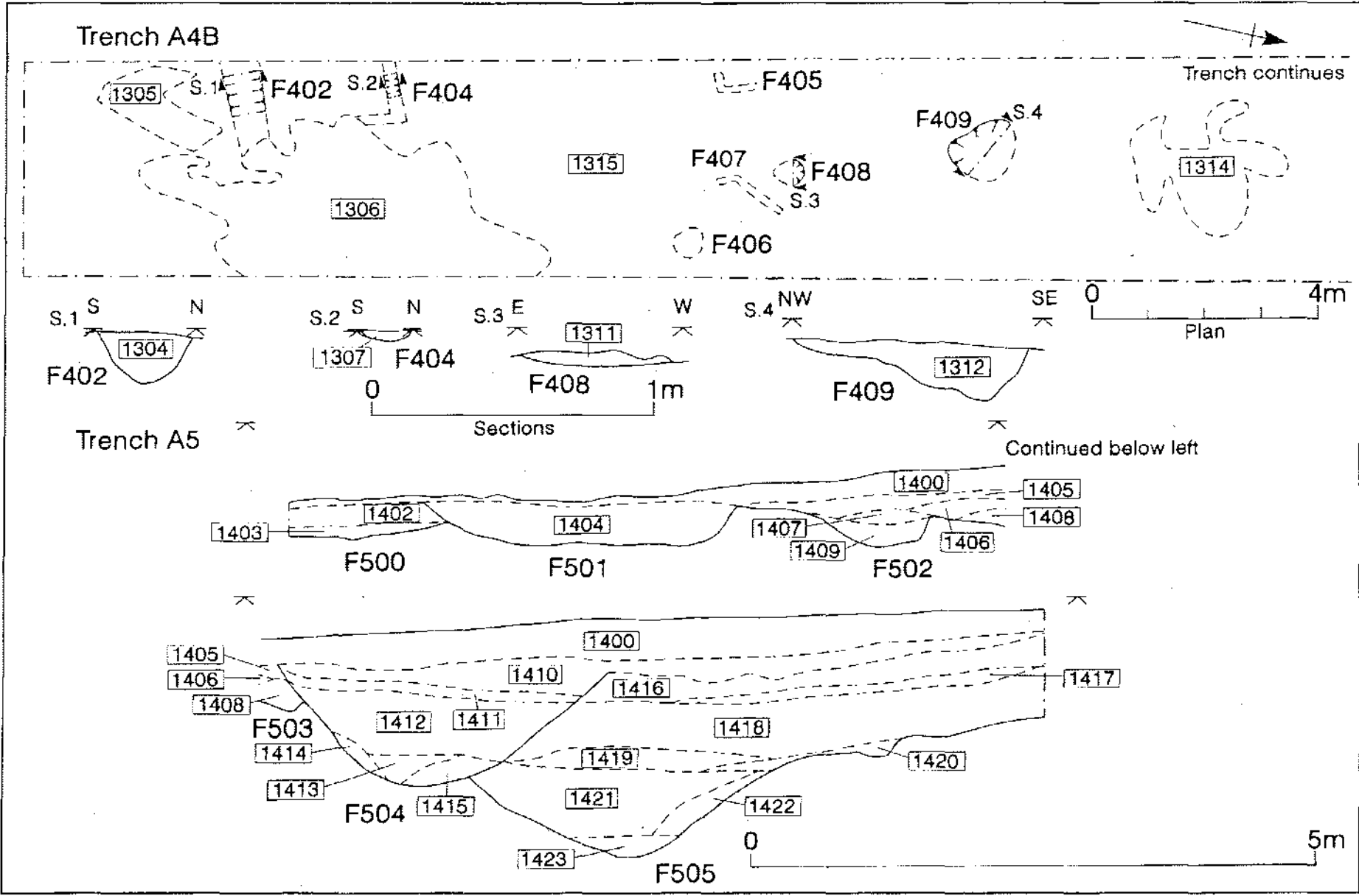


Fig.5

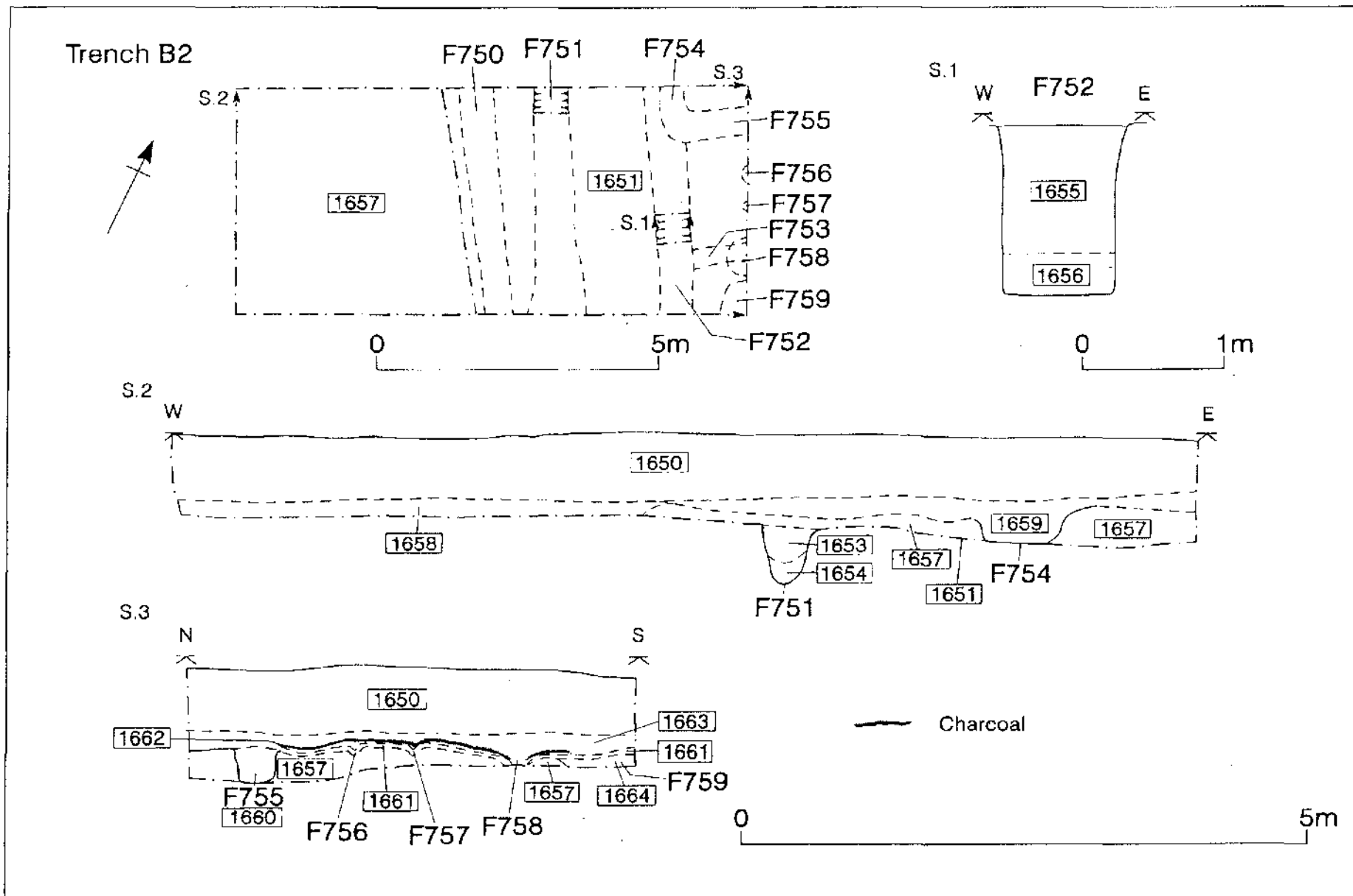


Fig. 6