BIRMINGHAM UNIVERSITY
FIELD ARCHAEOLOGY UNIT

LITTLE PAXTON QUARRY, DIDDINGTON, CAMBRIDGESHIRE EXCAVATIONS 1992-1998

ROMANO-BRITISH SETTLEMENTS (Area A and Area E/F)

POST-EXCAVATION ASSESSMENT

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1.0: SUMMARY

This report summarises the results of excavations within two Romano-British settlement areas (designated Area A and Area E/F), investigated during an on-going programme of archaeological investigations in advance of quarrying at Little Paxton, Diddington, Cambridgeshire, and provides proposals to bring the fieldwork results to full publication. This report forms the first stage in the post-excavation assessment of the fieldwork results within the Phase 1-2 areas of the quarry (excavated 1992-8). It is intended that subsequent assessments will summarise the results of fieldwork within the prehistoric settlement areas investigated during the fieldwork programme, leading to an integrated publication of the prehistoric (archaeological Phases 1-3 as presently defined) and Romano-British settlement evidence (archaeological Phases 4-6 as presently defined) within a single monograph. It is intended that the results of fieldwork within the Phase 3 area of the quarry (excavated 1998 onwards) will be the subject of a later post-excavation assessment, and a subsequent full publication.

Three phases of Romano-British activity (archaeological Phases 4-6) were provisionally identified. The earliest Romano-British activity (Phase 4) was represented by the cutting of irregularly-shaped ditched enclosures, interpreted as animal pens. These were defined by a ditched enclosure and other features (Area E/F), dated to the later-1st-early-2nd-century. Fragmentary field systems in Area A to the south may also belong to Phase 4. In Phase 5, the Area E/F settlement was abandoned, and a 'ladder' enclosure was laid out in Area A which contained traces of timber-framed buildings. This enclosure was occupied in the later 2nd-3rd century. In Phase 6 (the final phase of Romano-British activity) the 'ladder' enclosure was abandoned, and a rectilinear enclosure, occupied into the later-4th-century, was dug over the eastern part of where the Phase 5 'ladder' enclosure had been.

2.0: INTRODUCTION

2.1: Background to the project

This report presents an integrated summary of the results of investigations at two Romano-British settlement complexes (for convenience lettered Area A and Area E/F, Fig. 1A-B; centred on TL 202651), undertaken during an on-going programme of archaeological excavations which began in 1992 at Little Paxton Quarry, Diddington, Cambridgeshire. The excavations have also involved the examination of prehistoric settlement complexes, which will be the subject of subsequent post-excavation assessments. The fieldwork was undertaken by Birmingham University Field

Archaeology Unit on behalf of Bardon Aggregates Limited (formerly ECC Quarries and later CAMAS Aggregates Limited)

Evaluation of the Phase 1-2 areas (Fields 1-4) within the quarry was undertaken in two stages. The first stage involved air photograph analysis, geophysical survey and trial-trenching, undertaken in 1992 (Air Photo Services 1992, Geophysical Surveys of Bradford 1992, Leach 1992, Jones 1992). The second stage in the evaluation of Fields 1-4 involved fieldwalking and test-pitting in Fields 1 and 2 (Bevan 1997, Bevan 1998), which was undertaken immediately prior to topsoil stripping and area excavation.

Since the evaluations confirmed that the principal settlement complexes within the quarry corresponded with the main concentrations of crop-marked features, subsequent area excavations have been targeted to examine the main concentrations of crop-marked features. A total of five area excavations (Areas A-E/F) has been undertaken in the Phase 1-2 area of the quarry between 1993 and 1998, and the results of work in each area have been summarised in four interim reports (Jones and Ferris 1994, Jones 1995, Jones 1998 and Jones forthcoming). The archaeological mitigation strategy within the remainder of the Phase 1-2 areas of the quarry has involved the maintenance of an archaeological watching brief during overburden stripping, supplemented where appropriate by salvage recording.

Excavation in 1993 involved the examination of the Romano-British 'ladder' and other associated enclosures (Area A, Jones and Ferris 1994, and below), and the examination of a complex of early prehistoric pits and Iron Age farmstead enclosures (Area B, Jones 1995). A discrete Iron Age square barrow and other Iron Age features were dug in 1996 (Jones 1996, Areas C and D). The most recent investigations, undertaken over two seasons (1997-8), involved the examination of a complex of ditched enclosures and animal pens of Middle-Late Iron Age and early Romano-British date, extending over an area of 5ha. (Jones 1999, Area E/F). Other fieldwork, comprising fieldwalking and test-pitting, has also been undertaken in Fields 1 and 2 (Bevan and Dingwall 1997, Bevan 1997), together with targeted watching briefs and salvage recording during topsoil stripping operations outside the known settlement concentrations.

It is intended that the results from the prehistoric settlement areas (Areas B-D), and from the prehistoric features within the multi-phase prehistoric and Romano-British settlement areas (Area E/F), will be assessed subsequently, as a preliminary to full publication of the results of the 1992-1998 excavations in an integrated, multi-phase monograph.

Further, on-going evaluation and excavation is currently in progress in the Phase 3 area of the quarry, located to the north of the Phase 1-2 area (outside the scope of this assessment and the associated programme of post-excavation). This most recent fieldwork has involved the examination of Neolithic-Bronze Age pits, and Iron Age and Romano-British enclosures and field systems, which will be reported upon in a further Interim Report, and subsequently in a post-excavation assessment, to be

followed by a full programme of post-excavation analysis and reporting of the evidence.

2.2: Aims

The overall aims of the excavations were to define and date changes in settlement forms and economy from the Neolithic to the end of the Romano-British period, and to relate these changes to changes in the river valley environment, providing an integrated model of settlement and economic change which can be compared with evidence from other river valley environments.

The detailed aims of excavation appropriate for the study of the Romano-British period were as follows:

1) To consider the evidence for the Iron Age to Romano-British transition.
2) To define the chronology of site activity.
3) To provide an understanding of site use and economy, including the identification of buildings and their functions.
4) To provide an understanding of the date of, and reason for, site abandonment.
5) To define the nature and sequence of Romano-British activity. To characterise the pottery dating, the sources, and their distributions within the settlement areas, and to consider how this evidence may contribute to an understanding of the use of space within settlements, and whether the characteristic patterning of artifacts recorded reflects ritual activity.
6) To define the evidence for the changes in the settlement economy.
7) To examine the evidence for land use and the surrounding environment.
8) To compare the model of changes in settlement location, form and economy proposed for the settlement with data for other contemporary landscapes within the Ouse Valley, and to attempt a wider comparison with similar sequences recorded within other river valley environments.

2.4: Methodology

Excavation at the southern settlement (Area A), in April-June 1993, was targeted within an area measuring 180m by 110m, to include the majority of the 'ladder' complex, and the cropmark settlement complexes defined to the south of the ladder (Fig. 1C). Excavation in the northern settlement (Area E/F), undertaken in contiguous areas in 1997-8, examined an area of approximately 5 ha; which also contained Mid-Late Iron Age enclosures, in addition to the Romano-British features described and assessed below.

Within Area A and Area E/F the excavation and sampling procedures were similar (as elsewhere within the quarry), to permit inter-comparison of the results. Within the excavated areas, the ploughsoil was removed by motor-scraper working under archaeological supervision, to expose the upper gravel horizon, which was later cleaned by JCB excavator or by hand, to define the archaeological features cut into the gravels. Sampling of the ditches was targeted at the feature intersections to elucidate the sequence of activity, with discrete lengths of linear features also being additionally

hand-excavated. Pits and post-holes were examined in half-section. Particular emphasis was placed throughout upon the definition of internal structures within the 'ladder' in Area A, and its entire interior was cleaned manually in an attempt to define any structures present. Samples for environmental analysis were taken from all sealed, well-dated feature fills, and were processed on-site to enable rapid 'feedback' which contributed to the evolving strategy for excavation and further environmental sampling.

Recording employed separate running numerical sequences for contexts (four digit numbers) and features (three digit numbers, prefixed by an 'F'). Features were defined to include negative features such as ditches, pits and post-holes, but also positive features such as floors and banks. Where several hand-excavated cuttings were dug through the same feature the segments were distinguished by the addition of a decimal suffix to the feature number, and additionally the feature fills were separately numbered, to facilitate the analysis of spatial patterning within artifact distribution. For simplicity, the enclosures in Area E/F have been numbered in a chronological sequence (commencing with the Middle Iron Age enclosures) prefixed by an 'E'. The enclosures in Area A have been lettered in a sequence between A and E.

3.0: RESULTS

3.1: Phasing

Elements of three phases (Phases 4-6) of Romano-British activity were provisionally identified during the excavation and subsequent post-excavation analysis which provided spot-dating of the pottery and coins. The overall sequence of activity is defined as follows:

Phase 1:	Neolithic and Bronze-Age
Phase 2:	Middle Iron Age
Phase 3:	Late Iron Age
Phase 4:	**Late 1st-early-2nd-century (Area E/F and Area A)**
Phase 5:	**Late 2nd-3rd-century (Area A only)**
Phase 6:	**4th-century activity (Area A only)**

This assessment and the programme of analysis and reporting proposed in this report is only concerned with Phases 4-6, inclusive. The Romano-British dating evidence is tabulated (Tables 1-3).

For the purpose of defining this phasing, features dated by transitional wares of later Late Iron Age-mid-1st-century date have been assigned to the Late Iron Age (Phase 3, Jones 1999), and will be fully described in the post-excavation assessment concerned with the Iron Age.

3.2: Phase 4; Early Romano-British, Late-1st-early 2nd-century (Area A and Area E/F)

AREA E/F: Stock-enclosures, field systems and enclosures (Fig. 2)

In the early Romano-British period, the ditches of abandoned Late Iron Age (Phase 3) enclosure E28 (not illustrated) were re-excavated (F29), and a ditch (F1254A) was cut to the north of this enclosure, parallel to a Phase 4 ditch (F1254). Ditch F1254A formed the southeastern side of a contemporary droveway measuring 4m in width and extending northwards to Phase 3 ditch F1250, which was also re-cut (as F1255) in this phase. The curvilinear, western side of enclosure E29 was cut approximately 4m to the east of ditch F1254, forming a southward continuation of the droveway recorded to the north of the enclosure. Enclosure E29 was formed by the re-cutting of the southern side of enclosure E28, but the eastern and northern sides of the later enclosure were cut outside the line of its predecessor. An entry-gap was recorded in the northwestern angle of enclosure E29, defined on its southern side by a slightly out-turned terminal. The southern, eastern and northern sides of this enclosure were subsequently re-cut (E30-1). The eastern side of enclosure E31 was cut inside the southwestern corner of the former enclosure, while its remaining sides were formed by re-cuts of the enclosure E29-30 ditches. Enclosure E31 had an entrance on its northwestern corner, defined by two ditch terminals forming a right-angle. The positioning of the northern terminal across the southern end of the northern droveway suggests that this feature had gone out of use, although the southern enclosure terminal was only partly cut across the eastern side of the droveway to the south of the enclosure, implying that the southern droveway may have continued in use.

Phase 4 enclosures E28-E31 were distinguished from the Late Iron Age (Phase 3) enclosure group E19-E27, not only be their irregular morphology but also because of the size of their defining ditches. The ditches of the Phase 3 enclosure group measured an average of 0.8m in width and 0.1m in depth, while the Phase 4 enclosure ditches measured an average of 1.5m in width and 0.5m in depth. Fragments of other enclosure ditches were identified (e.g. in the northwestern interior of enclosures E29-E31), but no coherent details of their arrangement could be obtained because of the intensity of activity here.

A further focus of Romano-British activity was located to the west of northwest-southeast aligned ditch F1254. Late Iron Age (Phase 3) north-south ditch F1252 (not illustrated) was re-cut in Phase 4, and also extended to the south (F1256). A further ditch was cut eastwards (F1257), extending from the southern terminal of the former ditch. At least two entry-gaps were located along the length of ditch F1256. This western focus of Phase 4 activity contained two small, conjoined, roughly-rectangular enclosures (E32-33), both cut into alluvium. The entry-gap between these enclosures was positioned adjoining an entry-gap in north-south ditch F1256. The northern entry-gap to the northernmost enclosure (E33) was defined on its western side by a round-ended terminal. A palisade trench was cut diagonally across the entrance, with which two adjoining pits could have been associated.

The area to the east of ditch F1256 was divided by an east-west ditch (F1258), dug in two, offset sections, the westernmost formed by the re-excavation of the southern ditch of Late Iron Age (Phase 3) enclosure E10 (Jones 1999, fig. 3). The area to the south of this ditch, also defined by ditches F1256, F1251 and F1254 on its western, southern, and eastern sides respectively, may have formed a compound, following the abandonment and backfilling of the Late Iron Age (Phase 3) ditched enclosures within this area.

A series of irregularly-shaped ditched enclosures was laid out in the area bounded by the northern ends of ditches F1254 and F1256, and the western ends of ditches F1255 and F1258 which defined the eastern, western, northern and southern sides respectively of this area. Ditch F1259, formed by the re-cutting of the eastern side of Late Iron Age (Phase 3) enclosure E10 (Jones 1999, fig. 3), was interrupted by two entry-gaps, defined by round-ended ditch terminals. The largest of the enclosures in the area defined by the four contemporary ditches (enclosure E34) was rectangular in shape, its southern and eastern sides defined by ditches F1258 and F1259 respectively. The northern side of this enclosure was formed by a roughly east-west aligned ditch, which returned to the south at its eastern end, forming an L-shape, defining the western side of an in-turned entrance adjoining ditch F1254. This entry-gap was closed by a palisade trench, cut diagonally across the opening. The northeastern corner of enclosure E34 also defined part of the southern side of an adjoining rectangular enclosure (E35), positioned in the angle between Phase 4 ditches F1254 and F1255, which formed the southeastern and northeastern sides respectively of this enclosure. The northwestern side of enclosure E35 was defined by a northeast-southwest aligned ditch which returned to the east at its southern terminal, forming the northern terminal of an entry-gap. The opposing, southern side of this entry-gap was defined by a roughly-parallel, curvilinear ditch, together forming a 'funnel-type' arrangement. This entry-gap adjoined the eastern side of a narrow rectangular enclosure to the west (E36), whose western side was formed by ditch F1259. An entry-gap was located mid-way along the northern side of this enclosure. The western side of this entry-gap was defined by a slightly out-turned ditch segment, terminating in a possible gate-post, forming an offset entrance. A north-south aligned ditch, adjoining the southern side of enclosure E36, may have joined the southwestern side of this 'funnel-type' entry-gap.

A further rectangular enclosure (E37) was located to the north of enclosure E36. Enclosure E37 also lay to the east of ditch F1259, and the southeastern side of this latter enclosure was formed by two north-south aligned ditches, separated by an entry-gap. Entry-gaps were also recorded at the eastern and western ends of its northeastern side, the latter defined on its eastern side by a post-pit. Two further enclosures (E38-9) may have been defined to the north and east respectively of enclosure E38. Re-cut ditch F1259 may have defined the eastern side of a further, D-shaped enclosure (E40) its eastern and southern sides defined by ditches F1259 and F1259, occupying much of the area of Phase 3 enclosure E10. An entry-gap was located in the southeastern angle of enclosure E40, which was further defined by a palisade.

A further focus of Romano-British activity was located in the southwest of the excavated area. The main Phase 4 feature in this area was an irregularly-shaped

enclosure (E41) formed by the re-cutting of the Late Iron Age (Phase 3) enclosure E13 and E16 ditches (not illustrated). This enclosure measured 45m internally northwest-southeast and 32m internally southwest-northeast. An entry-gap was located towards the mid-point of its southern side, slightly offset from the position of its Phase 3 predecessor (enclosure E13). There were no associated internal features in this Phase 4 enclosure.

Later Romano-British activity was represented by two pits (F1260, F1261) and a north-south aligned ditch (F1262) which was cut to the south of the northeastern corner of Phase 4 enclosure E41. This ditch, which was recorded for a length of 85m, was V-shaped in profile, measuring an average of 4m in width and 1.3m in depth. No features associated with this ditch were noted, with the exception of ditch F1263, which cut the southern end of ditch F1261 and returned to the southwest, forming a U-shape in plan.

The northern settlement was abandoned at the end of this phase. It is also possible that later Late Iron Age enclosures E19-E28 (see Jones 1999 for full details) could have been occupied in part into the Romano-British period.

TABLE 1: PHASE 4 DATING, AREA E/F

Enclosure	*Dating*
E29-E32, E34	1st-2nd century
F1256	1st- early-2nd century
E40-1	1st- early-2nd century
F1260-1	1st- early-2nd century
F1262-3	1st- early-2nd century

AREA A: Early Romano-British field system (Figs. 3-4)

The earliest group of features comprised curvilinear or linear field boundaries, cut into the gravel subsoil. A small group of shallow curvilinear ditches, measuring a maximum of 0.10m in width, was located in the northeastern corner of the excavation. One was cut by a Phase 5 enclosure ditch (F305, see below), but this group remains otherwise undated.

The linear field boundaries orientated eastsoutheast-westnorthwest were more extensive, and measured between 0.1m-0.3m in width and between 0.01m-0.70m in depth. It is possible that more than one phase of activity could be represented, although plough truncation makes the identification of individual fields or plots difficult. Ditches following this alignment are recorded in the extreme southeast and towards the north of Area A, and appear to define the bounds of small fields or market garden plots. The contemporary ditches cut on north-south alignments in the west of the site were dug to drain the low-lying land on the west bank of a stream (Fig. 1C).

3.3: Phase 5; Romano-British. Late 2nd-4th century (Area A only: Enclosures A, B, D and E) Figs. 3-4

The Phase 5 features were cut into the backfilled Phase 4 features and into the subsoil.

Enclosure D

Enclosure D, partly-recorded in the extreme southeastern corner of Area A, may be the earliest Phase 5 feature recorded. Its extreme northwestern corner was represented by two ditches together forming a right-angle. Both ditches were V-shaped in profile, and their backfills indicated gradual infilling after abandonment. No associated features were noted within the limited area of the enclosure interior that was investigated.

Enclosure A

The cropmark 'ladder' enclosure (A), measuring between 26m-28m in width and over 180m in length, was composed of double and triple parallel ditches, respectively defining its northern and southern limits. The western limit of the enclosure adjoined the eastern bank of a north-south aligned stream, which defined the western end of the excavated area (Fig. 1C). The eastern end of the enclosure lay beyond the area excavated. The alignment and positioning of the enclosure followed a slight rise in the natural ground-level. No trace of any associated banks was recorded along the northern or southern sides of the enclosure.

The northern side of Enclosure A was defined by two roughly-parallel linear ditches, cut approximately 4.5m apart (measured centre to centre). The northernmost ditch (F305) was V-shaped in profile and measured an average of 2.5m in width and 1.2m in depth. Traces of partial recutting were recorded along part of its length. The southernmost ditch (F306) was U-shaped in profile, and measured an average of 2.0m in width and 0.8m in depth. The latter terminated in a rounded butt-end just inside the northwestern corner of the excavation. No evidence was found of either an internal or external bank. The western and eastern butt-ends of the southernmost ditch (F306) were recorded inside the western and eastern limits of the excavated area.

The fill sequence of both northern ditches suggests gradual infilling with soft sands and gravels, rather than deliberate backfilling. Ditch F171 (Enclosure B) was cut by a shallow re-cut (F170) of Enclosure A ditch F305.

The southern side of Enclosure A was defined by a parallel double or triple-ditched arrangement, cut parallel to the northern pair of ditches, and interrupted by a 6m wide entry gap. It is possible that the central ditch (F308) of this group, cut to the west of this entrance, might have been a Phase 1 field boundary, as may be suggested by the fact that its eastern terminal was not flush with the eastern terminals of the outermost ditches of this group. The outermost ditches of this southern group were cut to a U-shaped profile along most of their length, and measured an average of 2m in width and 0.6m in depth, notably shallower than their northern equivalents. This difference probably reflects their original size and possibly their function, since plough

truncation was probably uniform throughout Enclosure A, except where deeper overburden in the east and west may have afforded some protection from plough truncation. The fill sequence of the southern ditch group also suggested gradual infilling.

The main focus of activity within Enclosure A was located in the northwestern corner of the excavated area. Although no complete structure ground-plans could be recovered, a dense concentration of post-holes, measuring an average of 0.5m in diameter, probably defined one or more possibly rectangular timber-framed buildings, aligned parallel to the main axis of the enclosure, and located adjoining the northern entry-gap. Some of the post-holes were cut into infilled Phase 1 boundary ditches. Hearths and a rubbish pit (F193), the latter containing a large pottery assemblage, were also found in this area. Of particular interest was a flat-based, steep-sided cut (F209) which was rectangular in plan. This feature, interpreted as a tank for water-storage, might have been lined with clay. It was cut below the level of the contemporary water-table, and could have been positioned to receive water channelled along the line of ditch F307. Traces of repeated re-cutting were recorded in the upper fills of the tank. Samples of the organic fills of this feature contained charred plant material.

Two further foci of activity were noted in the centre of the enclosure. One comprised a scatter of post-holes, suggesting the location here of a possibly rectangular timber-framed building, with its long axis positioned perpendicular to the axis of Enclosure A. A second occupation focus to the east included two wells (F281, F304). Part of a rectangular timber-framed building was also defined here, along with post-holes probably belonging to other structures. Well F304, cut within the interior of the enclosure, measured 3m in diameter and 1.5m in depth. A second well (F281), dug into the infilled inner ditch F306, suggested that this area continued in occupation after the inner ditch ceased to be maintained. The well rapidly infilled with sands and gravels after abandonment.

Enclosure B

Enclosure B was formed by two ditches probably forming a right-angled intersection, as suggested by the cropmark evidence, the point of convergence being outside the area excavated. The western side of Enclosure B was defined by ditch F171, which was cut across the full width of Enclosure A. The northern side of Enclosure B (F152) was cut parallel with the long axis of Enclosure A. The other presumed sides of this enclosure could not be found by excavation, nor were any associated internal features identified.

The right-angled northwestern corners of three intercutting enclosures (Enclosure Group E) were recorded just inside the southern limit of excavation, although these were not investigated in detail.

TABLE 2: PHASE 5 DATING, Area A

Feature	*Type*	*Pottery/ other dating*
Enclosure D		
F136	Ditch	2nd-3rd century
Enclosure A		
Northern side of enclosure		
F306	Ditch	late-3rd-4th century (and residual 2nd-3rd century)
Southern side of enclosure		
F307-11	Ditches	late-3rd-4th
F310	Ditch	Coins: barbarous radiate AD 270-290; Crispus (AD 320-6)
Internal features		
F193	Pit	late-3rd-4th century
F209	Tank	mid-late 4th century
F304	Well	late-3rd-4th century
F126	Well	late-3rd-4th century
F281	Well	late-3rd-4th century
Enclosure B		
F152	Ditch	late-3rd-4th century
F171	Ditch	residual Late Iron Age pottery
Enclosure group E		
F176	Ditch	late-3rd-4th century

3.4: Phase 6; Later Romano-British activity (Area A only, 4th-century. field system and Enclosure C). Figs. 3-4

The latest phase of Romano-British activity was marked by the abandonment of the predominant orientation established in Phase 4 and subsequently respected by the Phase 5 'ladder' enclosure. In early Phase 6, a gridded field system was laid out on a new, north-south alignment, and a ditched enclosure (Enclosure C) was constructed in the east of Area A.

The pattern of east-west and north-south aligned field boundaries was most distinct in the east of the site, where the bounds of one complete rectangular small field or market garden plot, measuring 15m by 18m, were defined, and parts of other plots of similar size were recorded in plan. This group of ditched boundaries was cut by the northern and western ditches of Enclosure C.

The western side of Enclosure C was formed by a shallow, approximately north-south aligned ditch (F151), 0.5m in depth, and cut to a U-shaped profile to the north of a 4m-wide entrance. South of this entrance, the western side continued on a westsouthwesterly-northnortheasterly alignment. The north side was formed by a

ditch (F139), cut east-west, joining ditch F151 at a right-angled corner. The eastern and southern sides of this enclosure lay beyond the excavated area.

The northern and western ditches of Enclosure C were cut into the infilled northern and southern ditches of Enclosure A, and into infilled Phase 4 and 5 field boundaries. The ditch fills suggested gradual abandonment after disuse. Finds from the ditch backfills included pottery, roof tiles, ironworking slag and animal bone.

TABLE 3: PHASE 6 DATING, AREA A

Feature	*Type*	*Pottery/ other dating*
Enclosure C		
F151	W. Ditch	4th century (residual 2nd-3rd century material)
F139	N. Ditch	late 3rd-4th century; coin of Valens (364-78 AD)
F143	Ditch	late 3rd-4th century

3.4: Discussion

3.4.1: Phase 4 (Area E/F and Area A)

AREA E/F (Fig. 2)

As discussed above, elements of the later Late Iron Age (Phase 3) enclosures E19-E28 (not illustrated, see Jones 1999) may have continued in use into the Romano-British period, and it is also possible that elements of Late Iron Age (Phase 3) enclosure group E8-E17 (not illustrated, see Jones 1999) may have also been occupied into the Romano-British period.

To the east of Phase 3/4 ditch F1254, Phase 4 is represented by the cutting of a ditch (F1254A) forming a droveway with ditch F1254. To the south of the droveway lay enclosures E29-E31. The southwestern sides of these enclosures may have defined a further droveway adjoining ditch F1254 to the west. The 'antennae' of enclosures E29-E31 are perhaps similar to the entrance arrangements of 'banjo' enclosures (e.g. Micheldever Wood, Hampshire; Fasham 1987), interpreted as being associated with animal husbandry. The Little Paxton enclosure group may be distinguished from the Micheldever Wood example (*op cit* , fig. 3) because the entranceway to the enclosure (defined by ditches F1254 and F1254A) lay at a right-angle to the entrance.

The arrangement of enclosure group E34-E40, located to the west of ditch F1254, although more irregular in plan than the former group, could also suggest an association with animal husbandry. A notable feature of this enclosure group to the west of the ditch was the evidence for continuity in layout between the later Late Iron Age (Phase 3) and early-Romano-British (Phase 4) activity. It is possible that the area to the south of enclosures E34 and E40, also defined by the southern ends of ditches F1256 and F1254 and the northern side of Phase 4 enclosure E41, could have formed

a 'compound'. A further, large enclosure (E41) located to the south could also have been associated with animal husbandry.

This settlement area was abandoned no later than the mid-2nd century, and was not re-occupied during the Romano-British period. Given this suggested date for the abandonment of this settlement, and the later-2nd century date for the earliest occupation of the other Romano-British settlement focus in the south of the quarry concession, it is tempting to suggest a settlement shift between the two *foci*, although this cannot be proven. Such a settlement shift could have been influenced by climatic factors, such as increased rainfall. Another possibility is that there was an intervening abandonment of the area. The economy of this later Romano-British settlement was also at least partly based upon animal husbandry (Jones and Ferris 1994).

AREA A (Figs. 3-4)

The morphology of the curvilinear ditches suggests they could be Late Iron Age (Phase 3) or early-Romano-British (Phase 4) in date. The character of the Phase 4 field boundary fills suggests gradual infilling after abandonment. The backfilled Phase 4 features contained fragmentary sherds of pottery which were not closely datable within the Romano-British period. Possibly the earliest arrangement was represented by the curvilinear ditched field boundaries, which morphologically could be Iron Age in origin. The rectilinear field or market garden boundaries survived more extensively, and could have been originally laid out in half-*actus* units (18m). Such small plots, possibly used for market gardening, have been recognised elsewhere, as at, for instance, Brockworth, Gloucestershire (Rawes 1981).

3.4.2: Phase 5 (Area A only). Figs. 3-4

The alignment of the Phase 5 Enclosure A represented a degree of continuity with the alignments established by the Phase 4 field system, although the ditched enclosure probably reflected a marked change in site function. The two double ditches appeared to be broadly contemporary, but their differing morphologies could suggest different uses. In particular, the shallower depth of the southern ditch on its northern side could suggest a function as a palisade trench, although no evidence of the post-holes for timber uprights was found. It is possible that the slighter pair of ditches cut to the south contained a palisade, although no evidence of this structure was found during excavation. Some attempt had been made to keep the northern pair of ditches clean after their infilling. Enclosure B might have been laid out during the lifetime of Enclosure A, and could have formed a compound or stockade.

Three small foci of activity were defined within the interior of Enclosure A. It is possible that other internal features might have been ploughed out. Remains of a number of presumably timber-framed structures were recorded in the centre and west of the enclosure. No complete ground plan of any of these structures was recovered. The central occupation included a well, which might indicate settlement here, although the interior buildings could alternatively have been barns or stables. The tank might have been cut as a drinking trough for animals.

3.4.3: Phase 6 (Area A only). Figs. 3-4

The third and last phase of Romano-British activity, after the abandonment of Enclosure A, was marked by the laying out of a field system, following a new east-west alignment, in turn superceded by Enclosure C to the east. Pottery from the ditches of this enclosure provided a date for its use in the 4th century. This evidence suggested that use of the site might have continued to the end of the Romano-British period, and further analysis could provide valuable information concerning sub-Roman activity. Finds from the ditch fills indicated the presence of a settlement nearby, possibly including buildings roofed with *tegulae*, although no traces of contemporary buildings were found within Area A, either within the enclosure interior or outside its perimeter.

4.0: ASSESSMENTS

4.1: Introduction

This section of the report provides assessments of the finds and environmental data belonging to the Romano-British period (Phases 4-6). The data from Area E/F (Phase 4; late-1st-early-2nd century), and Area A (mainly Phases 5-6; later 2nd-4th centuries) were initially assessed separately, but the assessments have been integrated where appropriate for this report. Intrusive Romano-British finds from prehistoric features and the ploughsoil are included in this assessment. Similarly, the residual prehistoric finds from Romano-British features will be considered in the post-excavation assessments concerned with the prehistoric period.

The material from the chronologically-earliest Area E/F settlement is considered first in each of the finds categories. The letters MD preceding a layer number indicate a metal detector find. A number in parentheses following a layer or feature number denotes the quantity of an item. The letters SF indicate that the item is a small find, and are usually followed by a two digit number.

The assessment of material in each category concludes with a statement of its predicted research potential, based upon the main excavation research aims. The potential of each material category to contribute to the updated research aims is considered in Section 5.0 below.

4.2: Factual data and statement of potential

4.2.1: Stratigraphic/structural data

The survival of archaeological deposits was confined to 'negative' features cut into the natural sands and gravels. Features such as banks or floors were not identified. Ploughing from the medieval period onwards had caused severe truncation of the cut features such as pits and ditches, and might have obliterated slighter features such as post-holes or beam-slots. The cutting of parallel 'lazy-beds' for drainage across the site in the medieval period had also caused some limited disturbance to the Romano-British (and prehistoric) archaeology. The remains of Romano-British structures were confined to negative features such as post-holes, found only in Area A.

Some of the Romano-British ditched features formed re-cuts respecting the line of Iron Age enclosure ditches or boundaries. Similarly, a number of the earlier Romano-British ditched features was subsequently re-cut later in the Romano-British period.

A number of the ditched features in both Romano-British settlement areas contained waterlogged deposits.

4.2.2: Digital data

The Area E/F excavations were planned using the Penmap mapping system, and the manually-planned Area A settlement has been converted to this format, to ensure

compatability. The Penmap mapping system records X, Y and Z co-ordinates (easting, northing, and height). The Penmap data is presently multi-phase. As a preliminary to full use of the mapping it will be necessary to manipulate the field data to create phase plans.

A stratigraphic database has been prepared, including details of all evaluations and excavations from 1992-1998. As part of the proposed analysis, it is proposed to create a unified finds database. The information from prehistoric and Romano-British settlement complexes will be recorded in the same manner, to enable inter-comparison.

Statement of potential

- Spatial distribution

The Penmap data, in conjunction with the finds database, will assist in the preparation of spatial distribution plots of the main finds (pottery, animal bone) categories, and also of environmental evidence, each arranged by phase. The spatial distribution data will be of particular importance in determining the use of space within individual enclosures, given the relative paucity of internal buildings.

- Landscape and settlement

The addition of contour data to the digital map base, in conjunction with the height co-ordinates recorded by the Penmap mapping, will enable a digital terrain model to be established. In combination with the digital terrain model, digital mapping of the extent and depth of the alluvium will enhance our understanding of the relationship between the settlement pattern and the natural landform.

- Relationship between settlement and economy with landscape change

The digital terrain model will enable comparison to be made between the natural landform, the recorded changes in the settlement pattern, and the economic evidence relating to the prehistoric and Romano-British periods.

4.2.2: Quantifications

TABLE 4: Quantification of paper archive

Record type	*Area E/F*	*Area A*
Feature records	220*	204
Layer records	675	382
Site drawings (excluding Penmap)	303	228
Colour photographs: films	11	10
Black and white photographs: films	12	9
General/administration	2 files	2 files

* For linear features denotes number of features, not the total number of all cuttings through all linear features.

4.3: Finds

4.3.1: Quantifications

TABLE 5: Quantification of finds archive

Material (Excludes unidentified fragments)	*Area E/F*	*Area A*
Coins	-	14
Iron objects *	1	56
Lead objects	-	4
Copper alloy objects #	13	9
Stone objects	18	14
Worked bone objects	-	2
Glass	-	5
Coarse pottery	2,568	3,253
Samian	9	22
Mortaria	3	23
Amphorae	-	3
Brick and tile	-	35
Slag	-	133

KEY: *Excludes nails and hobnails # excludes plate fragments.

4.3.2: Coins (Area A only) by Lynne Bevan

Quantity

A total of 14 Roman coins was recovered from the following features F126/1255 (1), F127/1257 (1), F157/1306 (2), F163/1334 (1), F193/1379 (1). In addition, coins were recovered from the following layers 1252 (1), 1349 (3), 1380 (1), 1398 (1), 1611 (1), 1613 (1).

Statement of potential

The coins will be useful for defining the chronological development of the site, and for cross-comparison with the pottery dating. The assemblage also constitutes a sufficiently large group to merit identification and general comment.

4.3.3: Iron, lead and copper alloy objects (Area E/F and Area A) by Lynne Bevan

Iron objects

Iron objects from Area E/F consisted of: five nail fragments (F702/2504, F769/2796, F760/2783, F904.03/3158 and F1189/3957), a fragment of plate (F781/2858) and several unidentifiable, corroded lumps (F913.01/3232 and F913.01/3233).

Iron objects from Area A consisted of two complete blades (F193/1379, F210/1403), fragments from three others (F139/1279, MD/1348, MD/1349), two hooks (MD/1348,

F181/1363), part of a ring (F151/1411), fragments from a broken buckle (F172/1350), and 47 fragments of plate

A total of 170 nails was also recovered. Features and layers with more than one nail comprise the following: F126/1255 (4), F126/1256 (3), F127/1257, F130/1263, F137/1275, F139/1279, F140/1280, F143/1285(6), F147/1291, F149/1293, F151/1297(2), F154/1301(7), F163/1320, MD/1348(4 nails and 13 hobnails), MD/1349 (50 nails and 45 hobnails), F176/1354(2), F179/1357(2), F179/1358, F179/1359, F188/1370, F190/1376(3), F192/1378, F193/1379(8), F202/1391, F151/1409(2), F151/1411(5), F225/1462.

Lead (Area A only)

Two fragments of twisted strip (1252), an ovoid lump (MD/1348), and part of a possible seal with an impressed pattern (MD/1349), were recovered.

Copper alloy objects

Copper alloy objects from Area E/F comprise a pair of copper alloy tweezers (F626.01/2290), and two fragments from a copper alloy fitting, possibly from horse equipment (F602.01/2004), a length of ridged strip (F713.04/2653), a fragment of strip (F913.01/3233), two fragments of chainlink and a hooked strip (F1041.02/3942), a possible stud (unstratified), and several unidentified fragments (F1078/3615 and F1092.02/3775). The other copper alloy finds comprise brooches: two without fastenings, one of which is pennanular (unstratified, SF12), and the other, a bow brooch (F904.03/3158), with a possible small fragment from a third brooch (F848.03/3093).

The copper alloy objects from Area A comprise part of a possible snake's head bracelet (F193/1551), a plain finger ring (F154/1301), a twisted wire finger ring (F190/1376), the shank of a toilet instrument (layer 1118), a fragment from a vessel (MD/1349), a perforated plate fitting (F193/1479), plate fragments (F126/1255, MD/1349), three fragments of strip (F163/1344, -/1349 (2)), and a small, punched disc (MD/1348). The following features/layers in Area A also contained copper alloy plate fragments: layer 1252, F126/1255, F126/1256, F131/1264, F143/1285, F150/1294, F151/1295, F157/1301(6), F155/1303, F157/1306, F163/1320, F164/1330, MD/1348(4), MD/1349(15), F176/1354, F190/1376, F193/1379(8), F202/1391.

Statement of potential

Due to the generally poor condition of the ironwork, further research beyond a basic catalogue and x-ray is only recommended for the blades, hooks, ring, and possible buckle, with a view to compiling a short report, including parallels and illustrations

Further research, including illustration, is recommended for the possible lead seal (MD/1349), but not for the other lead items.

Further work is recommended on all the copper alloy items from Area A to compile a full descriptive catalogue and, if possible, to ascertain their date and function.

4.3.4: Stone objects by Lynne Bevan

A total of 18 worked stone items was derived from Area E/F. These comprised 17 quernstones, or quernstone fragments, two of which were complete and a further two of which were substantial fragments. The two complete stones, one of the substantial quern fragments and nine smaller fragments all originated from feature F1104/3664. The other substantial fragment and a smaller fragment from another quern were from feature F944/3380 and 3360, and fragments from three further querns came from features F1128/3736A, F913.04/3486, and F1125/3714. In addition, a small honestone was recovered from feature F1120/3723.

The concentration of querns from this settlement, four of which derived from one feature, attests to its agro-industrial basis.

Items of worked stone from Area A consisted of a possible anvil and pounder (F157/1317), and fragments from at least 12 quernstones from the following features/layers: layer 1084 (1), layer 1143 (1), layer 1253 (1), F127/1257 (1), F149/1293 (2), F193/1379 (1), F183/1384 (3), F201/1390 (1), F228/1467 (28), F260/1497 (4), F262/1511 (1), F193/1551 (2).

Statement of potential

Geological identification, full cataloguing and publication is suggested for the stone items from Area E/F, including a search for published parallels among Romano-British material at both a local and regional level. Analysis of this material will contribute to the understanding of spatial patterning in finds distribution. Moreover, considerable morphological and geological variation is apparent in the assemblage in which at least six different kinds of stone, including a possible fragment of Andernach lava from the Rhineland, are represented. Identification of the sources of stone will contribute to the understanding of trading patterns and contacts of the settlements. Illustration is recommended for a total of eight items, comprising the larger querns and quern fragments and the honestone.

Further research, including geological identification of the quernstones is recommended for the production of a catalogue of the Area A material. Illustration is suggested for the possible anvil and one of the more complete quernstones.

4.3.5: Worked bone objects (Area A only) by Lynne Bevan

Two items of worked bone were recovered: a circular fragment from either a handle or a musical instrument (F304/1640) and part of a pin shaft (F131/1264). Both items should be catalogued, but further research, including illustration, is recommended for the first item only.

4.3.6: Glass objects (Area A only) by Lynne Bevan

A faience melon bead and a piece of window glass were recovered from feature F193/1379. Three fragments of blue-green vessel glass were recovered, one from each of features F144/1289, F190/1376 and F210/1403, the latter from the base of a bottle.

All of the glass is considered to be Roman in date and should be catalogued. Due to the fragmentary nature of these pieces, none of which is diagnostic of a particular vessel form, further research, including illustration, is only recommended for the melon bead.

4.3.7: Romano-British pottery by Jane Evans and Annette Hancocks

Quantity

A total of 5821 coarse ware sherds of Romano-British pottery was recovered from Area E/F and Area A. This figure excludes the 800 sherds in transitional Iron Age/Romano-British wares, which will be separately assessed. Area E/F produced 2,568 coarse ware Romano-British sherds, all derived from well-stratified contexts. Area A produced 3,253 coarse ware sherds, the majority of which were generally well stratified, although 220 sherds (6.5%) were unstratified. The condition of both assemblages was good, the pottery being fairly unabraded and comprising good-sized sherds.

In addition, the Area E/F excavations produced three sherds of mortaria, and nine sherds of samian. The Area A excavations produced 23 sherds of mortaria, 22 sherds of samian, and three sherds of amphora.

Storage and curation

The pottery was in generally good condition comprising good sized sherds demonstrating little evidence of surface abrasion. The potential for long term storage should not be affected by its condition. No long term conservation problems are envisaged.

Range/ variety

Area E/F produced an early Roman assemblage dating from the late 1st to early 2nd century but, as noted above, possibly overlapping with the 1st century transitional wares. Area A produced a predominantly late 3rd to early 4th century group, with small quantities of mid-late-2nd century pottery.

The Romano-British pottery from Area E/F comprised channel rim jar forms in grog and shell fabrics, Verulamium region white wares such as ring-necked flagons, bifurcated rim jars and amphorae, and locally-produced greywares. This material does not include the transitional 'Belgic' style pottery which can date as late as the 1st century AD. Notable absences from the Romano-British assemblage from Area E/F includes Black Burnished ware (BB1), Nene Valley colour-coats and greywares.

These are good bench-marks for confirming the actual date range of the assemblage, since no Antonine or later material was present. The range and variety of material recovered are closely restricted to the dates stated above and comprised predominately locally-produced coarsewares with little evidence of 'exotic' pottery such as samian, mortaria, amphorae or finewares.

The single largest group of pottery from Area A was recovered from pit F193, which contained 29% (941 sherds) of the Romano-British coarse ware assemblage and could be clearly dated to the late-3rd - early 4th century AD. This material formed part of the assemblage recovered from Enclosure A. This enclosure provided 56% of the carse ware Romano-British pottery recovered, with Enclosure C providing 21% of the Romano-British coarse ware assemblage.

The pottery from Area A was generally well stratified. Sherds were clean, large and unabraded. In particular, the large pit group (F193) revealed several vessels made up of cross-joining sherds from several different layers. With the exception of Phase 4 field boundary F128 (1259), which contained early Romano-British material of 1st - 2nd century date, all other samian recorded appears to be residual.

The bulk of the assemblage from Area A appears to be restricted to the later Romano-British period (late-3rd-early-4th century.) This is reflected in the restricted quantity and range of fabrics recovered. Most of the Area A pottery c.85% comes from sources 'local' to the Little Paxton site, such as the Nene Valley production centres, whilst pottery from further afield comprised later Roman shelly wares (from Harrold, Bedfordshire) and Black Burnished ware BB1 (Dorset).

Fabric groups were classed by common ware name and included Nene Valley greywares (slipped, sandy and fine), Nene Valley colour coats, Nene Valley mortaria, London type ware, Shelly wares, Oxfordshire colour coats, Samian, and Dressel 20 amphorae.

Within the Roman assemblage there is a distinct lack of certain diagnostic forms, such as Nene Valley colour-coat cups and beakers, with a much greater emphasis being placed on bowl and jars forms of locally-produced greywares. This may reflect the status of the settlement and the need for cheap, locally-produced pottery. The pit F193 provides good evidence for this argument, producing a good, closed group of late-3rd--4th century pottery.

The bulk of the assemblage consists of large, unabraded sherds. The distinct lack of abrasion may be a result of the favourable soil conditions, and possibly the almost immediate disuse or backfilling of certain features.

Assessment Methodology

All of the pottery was rapidly scanned and spot dated for good diagnostic and dateable material. The pottery from Area A was roughly sorted into broad fabrics groups by eye and quantified by count only. Good diagnostic rim forms were sketched and

terminus post quems allocated to individual layers. Unusual occurrences were noted. Samian, mortaria and amphorae were also separated from the assemblage.

This assessment considers the Romano-British pottery from the Area A and Area E/F excavations. The aim is to assess the potential of the combined assemblage to address the specific research aims of the project (Section 2.2 above), and also the broader research aims of Romano-British pottery studies as defined in a recent Research Frameworks document produced by The Study Group of Roman Pottery (Willis 1997).

Statement of Potential

The main academic objective defined for the project was to provide an overview of changes in settlement and economy during the prehistoric and Romano-British periods, and to relate these changes to the evolution of the river valley environment. To achieve this a uniform approach will be needed for the study of material from both periods. The research aims presented here for Romano-British pottery will need to be reviewed when the research aims for prehistoric pottery are more closely defined, and the specialists involved will need to liaise closely when deciding the precise methodology for recording and analysing the data.

During the full analysis and reporting the pottery will be fully quantified using the standard BUFAU recording system and an Access database. Information recorded will include context, fabric, sherd type, vessel class and form type, count, weight, diameter and percentages extant for rims and bases, decoration, cross-joins (where practicable) and any other aspects elucidating the production, use, or post-depositional history of the vessel. Fabrics will be cross-referenced with existing fabric series for the region.

- Chronology

All of the pottery has been scanned and spot dated, and provisional phasing has been produced for the Interim Reports and this assessment. More detailed analysis will allow the site chronology to be refined, particularly in Area E/F where there is continuity of occupation from the Iron Age through to the early-Romano-British period (Phases 3-4). The potential to characterise the pottery from different phases is high for a number of reasons. There are good stratigraphic sequences, and obvious morphological differences between the enclosure complexes of different phases, for example the Area E/F enclosures belonging to Phases 3 (Late Iron Age) and Phase 4 (early-Romano-British). During the assessment, variations were evident between assemblages associated with different phases of activity; for example the proportion of shell tempered ware increased between the Phase 5 and Phase 6 assemblages from Area A. Finally, the overall level of residuality is low, particularly when compared to assemblages from urban sites. A quantified analysis of the assemblage will therefore make a significant contribution to our understanding of the ceramic sequence for the region, and provide closely-dated assemblages which can be used to study chronological variations in the other research themes described below.

- Functional/spatial patterning

The need for large-scale spatial analyses on rural sites, and the important role that Romano-British ceramics can play in such analyses, is emphasised in the Research Frameworks report (Willis 1997, 15, 4.5.3). Analysis of the distribution of pottery from the enclosure ditches across the Area E/F and Area A settlements could allow patterns of rubbish disposal and other aspects of site formation processes to be explored. More detailed analyses, by form, will provide functional data, which may help define functional areas across the site. The excavation of two chronologically-distinct areas provides the opportunity to study these aspects in a chronological framework. Comparison can also be made with the pre-Romano-British ceramics. The potential for spatial analysis, however, will be largely determined by the recording methodology used on site (see Section 2.0). The distribution of pottery will need to be studied alongside the distribution of other finds.

The distribution of pottery throughout Enclosures A-D in Area A may provide valuable information concerning the settlement nucleus, although the sampling strategy may have influenced the recovery rates of material from the various enclosures.

- Status

Analysis of the fabrics and forms represented in the two Romano-British assemblages will allow questions of status to be addressed; both economic status in terms of material wealth, and social or cultural identity, in terms of 'Romanisation' and 'regionality.' Once again, the two chronologically-distinct Romano-British assemblages can then be compared with the pre-Roman evidence to identify any chronological changes in the 'status' of the site's occupants.

One of the detailed excavation aims of the Area E/F excavations was to consider the significance of the 'high status' pottery found in the evaluation stage of fieldwork (Bevan 1992). The subsequent Area E/F excavations produced a relatively wide range of Late Iron Age 'Belgic' fineware types which are suggested as reflecting cultural affinities with settlements to the south rather than to the north of Little Paxton (Jones 1999, 13). The Phase 4 Area E/F early-Romano-British assemblage, in contrast, produced little evidence for exotic pottery such as samian, mortaria, amphorae or fineware, and the Phase 6 Area A late-Roman assemblage also appears to have been predominantly locally-made. These impressions, based on fabrics, need to be properly quantified so that comparison can be made with other assemblages from the region. The functional composition of the assemblages, based on vessel forms, also needs to be quantified for comparative purposes. The possible influence of the later Romano-British temple (Alexander n.d.) upon the Area A assemblage should also be considered.

- Trade/economy

Fabric analysis will indicate the sources supplying the Little Paxton settlement with pottery, and publication of the fully-quantified data will contribute to the longer-term

study of regional trade patterns throughout the Romano-British period. The ceramic evidence could be studied in the light of other evidence for changes in the economy of the site, to see if there is any correlation.

- Rural/urban assemblages

For all the themes listed above, comparison could be made between the evidence from this rural settlement and the evidence from contemporary urban settlements in the region, in particular Godmanchester.

- Transitional periods - Iron Age to Romano-British, and Romano-British to Saxon

The probable continuity of occupation at Area E/F from the Late Iron Age (Phase 3) through to the early Romano-British period (Phase 4), provides an opportunity to address all of the themes noted above at a period of significant change. It will be particularly important to ensure, however, that compatible recording systems are used to study the prehistoric and Romano-British pottery. Similarly, publication of the later, Phase 6, Romano-British assemblages, from Area A Enclosure C and the Enclosure A rubbish pot (F193), will provide data which can be compared with other late and post-Roman assemblages in the region.

4.3.8: Brick, tile and fired clay (Area A only) by Lynne Bevan

Quantity, range and variety

Thirty-five tile fragments were recovered from the following layers and features: layer 1253 (6), F126/1255 (1), F136/1274 (1), F149/1293 (1), F151/1295 (1), F151/1297 (1), F157/1306 (6), F162/1318 (1), F143/1341 (1), MD/1348 (1), F184/1366 (5), F193/1379 (3), F151/1409 (1), F307.02/1447 (1), F309.01/1459 (1), F193/1551 (4).

Two of the fragments (F157/1306 and F151/1409) had flanges suggestive of *tegulae*, a type of Roman roof tile. None of the other fragments was diagnostically Roman in shape.

A total of 118 amorphous lumps of fired clay were recovered from the following features/layers: layer 1253 (10), F126/1255 (9), F126/1256 (1), F130/1263 (1), F139/1286 (1), F154/1301 (1), F157/1306 (1), MD/1349 (10), F185/1367 (3), F306.02/1357 (4), F193/1379 (21), F200/1389 (1), F151/1409 (2), F310.03/1448 (1), F310.03/1449 (3), F209/1463 (1), F228/1467 (1), F193/1484 (2), F260/1497 (2), F193/1522 (2), F193/1551 (8), F304/1644 (3).

Feature F193/1379 produced the most material, 27 fragments, followed by layers 1253 and MD/1349, with 10 fragments each.

Three fragments of brick were recovered (one each from layer 1250, F154/1301 and MD/1348).

Statement of potential

No further work is recommended on any of the brick and tile. No recognisable kiln furniture was present among the fired clay, and, as such, no further action is recommended.

4.3.9: Slag (Area A only)

A total of 133 fragments of possible smithing slag was recovered from the following layers: layer 1250 (1), F126/1255 (3), F126/1256 (3), F127/1257 (2), F129/1262 (7), F137/1275 (7), F151/1295 (1), F154/1301 (49), F152/1304 (1), F171/1305 (6), F306.06/1320 (1), F164/1330 (1), F167/1337 (16), MD/1349 (6), -/1424 (14), F307.02/1447 (6), F306.07/1511 (3), F151/1636 (3).

The greatest concentrations of slag came from features F154/1301, F167/1337 and layer 1424, with totals of 49, 16 and 14 fragments respectively. Both features F154/1301 and F167/1337 also included pieces of fired clay, which were perhaps hearth lining.

No further work is recommended upon this material, apart from weighing and tabulation.

4.4: Zoological and botanical evidence

4.4.1: Quantifications

TABLE 6: Quantification of zoological and botanical evidence

Material/ Sample type	*Area E/F*	*Area A*
Oyster shell	-	20
Animal bone	317 'countable' bones	247 'countable' bones
Insect remains	3 samples	6 samples
Charred plant remains	30	-
Pollen	5	-

4.4.2: Oyster Shell (Area A only)

A total of 20 oyster shells was recovered from the following features/layers:

F151/1295 (2), F306.06/1320 (1), MD/1349 (1), F193/1379 (8), F193/1479 (1), F193/1484 (1), F307.06/1497 (2), F193/1551 (2), F151/1636 (1), F304/1640 (1).

The majority derived from feature F193/1379 (eight shells), and the remainder were found either singly or in pairs. No further analysis is recommended for this small group of material.

4.4.3: Animal bone by Umberto Albarella and Andy Hammon

Introduction and methods

The number of 'countable' bones, ageable mandibles and measurable bones from the hand-retrieved Area E/F and Area A assemblages is summarised in Tables 7-8. This methodology was based on a revised version of the system proposed by Davis (1992) and Albarella and Davis (1994). This system considers a selected suite of anatomical elements as 'countable'. Briefly these skeletal elements are: all distal long bones where at least 50% of the articular surface is present; the proximal end of the ulna and phalanges, where at least 50% of the articular surface is present; the ischial segment of the acetabulum, the atlas and axis; all mandibular and maxillary incisors, pre-molars and molars where at least half of the occlusal surface is intact; and the skull (zygomaticus) if relatively intact. The presence of 'non-countable' elements, such as antler and horncore, is also noted, as are 'non-countable' elements from unusual species and pathological specimens.

Mandibular fragments are considered to be ageable when there are two teeth present with recognisable wear. The wear stages defined by Grant (1982) were used for cattle and pig, whereas Payne (1973 & 1987) was used for sheep/goat teeth. Measurements vary depending on anatomical element and species involved. For the most part these measurements following those defined by Von den Driesch (1995) and Davis (1992).

At this stage of the analysis no attempt has been made to distinguish between the following closely-related species: sheep (*Ovis aries*) and goat (*Capra* hircus); chicken (*Gallus gallus*), guinea fowl (*Numida* sp.) and pheasant (*Phasianus* sp.); and the equids (*Equus* sp.).

Quantity

The hand retrieved animal bone assemblage from Area E/F is small, amounting to 317 'countable' bones. The composition of the assemblage is tabulated (Table 7). The preservation of the bone surfaces (cortical integrity) demonstrated some variation. The majority of bones fluctuated between moderately-well and well-preserved. Good preservation was characterised by intact surfaces that had suffered little exfoliation and abrasion whereas moderately-well preserved material had received some damage to their original surfaces. Several features contained poorly-preserved material, these were F758.01/2799, F758.02/3101, F956/3421, F978.01/3465, F1065/3578, F1048.04/3760 and F1133/3764. This differential preservation may have resulted from the fluctuating hydrology of the site and the intermixing of chalk within mainly gravel deposits, affecting soil acidity.

The animal bone also demonstrated considerable variation in colour. Seventeen contexts contained bone that was especially dark in colour, which is characteristic of the material having derived from waterlogged deposits. However, these have recently dried-out due to adjacent gravel extraction.

TABLE 7: 'Countable' animal bones, Area E/F (after Davis 1992; Albarella and Davis 1994).

Species	*Number*
Cattle (*Bos taurus*)	137
Sheep/Goat (*Ovis/Capra*)	71
Pig (*Sus scrofa*)	18
Equid (*Equus* sp.)	58
Dog (*Canis familiaris*)	31
Chicken/Guinea fowl/Pheasant (*Gallus/Numida/Phasianus*)	2
TOTAL	317

A total of 247 'countable' bones was recovered from Area A. The assemblage is detailed in Table 8. Preservation of the bone surface was on average good and approximately homogenous in all contexts. The fragmentation was not severe and was probably due to human activities (butchery, cooking, working etc.).

TABLE 8: 'Countable' animal bones, Area A

Phase	*Cattle*	*Sheep/ Goat*	*Pig*	*Others*	*Bird*	*TOTAL*	*Fish*	*Comments*
Phases 4-5	1	-	-	-	-	1	-	
Phase 6	141	56	9	39	1	246	-	includes, goat, horse, dog, cat, red deer, roe deer, badger and chicken
Total	142	56	9	39	1	247	-	

Provenance/dating

Area E/F

All the material considered in this assessment was hand-collected during the course of the excavation. The majority of the animal bone assemblage was derived from negative feature types, such as enclosure ditches and ditched field boundaries. A number of samples was taken primarily for the recovery of carbonised and waterlogged plant remains. The residues sorted to date have contained moderate quantities of small mammal, bird, fish and amphibian remains. The bone retrieved from the sample residues should be considered in conjunction with the hand-collected assemblage for the final analysis and report. If the final report relies totally on hand-collected material the site interpretation may be incorrect. Hand-collection usually leads to a recovery bias, which favours the larger bones of the larger species. The smaller species of mammal, bird, fish and amphibians are normally absent from hand-collected material

It is possible that the assemblage may be affected by problems of residuality. At present, definition of the transitional period between Phase 3 (Late Iron Age) and Phase 4 (early-Romano-British) is not clear.

The level of fragmentation within this assemblage was relatively low, with a moderate amount being new breakage. The pattern of fragmentation would suggest that the

majority of animal bone from Area E/F derived from butchery and kitchen waste. Very little canid gnawing was observed within this assemblage. This would suggest that most bone fragments were retrieved from their original context, rather than secondary deposition caused by scavenging dogs being an important factor.

Area A

All animal bone from Area A was hand-collected. Detailed information about any problems of residuality is not presently available, but serious problems of residuality are not anticipated. Animal bones mainly derived from ditches, although a few were also found in other features, such as gullies, pits, hearths and wells. Gnawing marks have been noted, which suggest that some bones have not been found in the same place where they where first discarded (i.e. they are in secondary deposits).

Range/variety

Area E/F

Tables 9-10 summarise the numbers of ageable mandibles, measurable bones and teeth from Area E/F. The assemblage was dominated by three species. In descending order these were cattle, sheep/goat and horse. Pig, dog and chicken were also present, but in small numbers. The assemblage is apparently characterised by the total absence of wild mammal and bird species. Some of the smaller wild species may be added to the list once the sample residues have been sorted and analysed.

Layer F913.04/3484 contained a cattle tibia with a badly-healed fracture to its distal end, which had caused extensive remodelling and new bone growth. A smashed horse skull (F629.03/2379) was also recorded. Feature F1075.03/3725 contained a partial dog skeleton from a medium - small/medium sized animal. Young animals (cattle, sheep/goat, horse and pig) were noted from several layers. 'Non-countable' cattle horncores were noted from a number of feature fills.

TABLE 9: Number of ageable mandibles from Area E/F

Species	*Number*
Cattle (*Bos taurus*)	14
Sheep/Goat (*Ovis/Capra*)	23
Pig (*Sus scrofa*)	4
TOTAL	41

TABLE 10: Number of measurable bones and teeth from Area E/F

Species	*Number*
Cattle (*Bos taurus*)	33
Sheep/Goat (*Ovis/Capra*)	15
Pig (*Sus scrofa*)	4
Equid (*Equus* sp.)	15
Dog (*Canis familiaris*)	19
Chicken/Guinea fowl/Pheasant (*Gallus/Numida/Phasianus*)	1
TOTAL	87

Area A

Table 11 sets down a summary of the species represented in the Area A assemblage.

TABLE 11: Numbers of 'countable' bones, ageable mandibles and measurable bones from Area A (Based on a modified version of the system proposed by Davis (1992) and Albarella and Davis (1994)).

	AGEABLE MANDIBLES				*MEASURABLE BONES*					
PERIOD	Cattle	Sheep /Goat	Pig	TOTAL	Cattle	Sheep/ Goat	Pig	Others	Bird	TOTAL
late Iron Age	-	1	-	1	1	1	1	-	-	3
early Roman	-	-	-	-	-	-	-	-	-	-
late Roman	9	11	3	23	41	23	4	20	-	88
Total	9	12	3	24	42	24	5	20	-	91

The Area A assemblage is dominated by cattle, sheep and, to a lesser extent, horse, pig and dog bones. Cattle are predominant, as is typical of Romano-British sites. However, this may be partly due to a recovery bias, favouring the larger animal bones. A few goat bones have been noted and two equid bones are small and slender and might belong to a donkey; a more thorough identification is necessary. The presence of wild animals, such as red deer, roe deer and badger, is of some interest. The scarcity of birds and the absence of fish may also be attributable to the fact that smaller bones may not always have been collected, though they may be present in the heavy residues of soil samples.

This is a small late-Roman assemblage. The bones from Phase 4 features are so scarce that they can hardly provide any information. Ageing and metric data (Table 11) are few, and although useful as part of a general database of Roman sites will not be sufficient to detect patterns of animal exploitation on this specific site.

Statement of potential

The principal academic objective of the project was to provide an overview of changes in settlement and economy during the prehistoric and Romano-British periods, and to relate these changes to the development of the river valley

environment. To achieve this a uniform approach to the study of the prehistoric and Romano-British animal bone will be required. Due to the absence of sieved material the Area A assemblage is biased towards the larger bones and this will have to be taken into account during interpretation. The recording of the animal bones should start only when the final phasing has been agreed and possible problems of residuality are resolved. If the problem of residuality is serious, some of the Romano-British contexts may have to be omitted from the vertebrate analysis.

- Preservation

The generally good preservation and low fragmentation (illustrated by the relatively high number of ageable mandibles and measurable bones – see Tables 9-10) should provide enough data to enable a reconstruction of the site economy and activities, as well as the agricultural practices carried out in the immediate vicinity.

- Spatial analysis

There is the potential for spatial analysis based on species and skeletal representation to research waste disposal practices and stock control features.

- Inter-site comparison

Due to the dearth of animal bone assemblages from Roman rural sites, this material is important. The early Romano-British (Phase 4, Area E/F) assemblage may be usefully compared with the later Romano-British assemblages (Phases 5-6, Area A) at Little Paxton. Broader comparisons should also be attempted with other Romano-British settlements located with the River Great Ouse Valley and its environs, and in other river valley environments. High potential also exists for inter-comparison of the Iron Age (Phase 2-3), and Romano-British (Phase 4-6) assemblages at Little Paxton quarry. This comparison is perhaps of particular significance given the suggested associated of both the excavated Iron Age and Romano-British settlements with a pastoral economy.

- Possible association with Roman temple

It is possible that the Area A Phase 5-6 settlement could be associated with the nearby contemporary temple site. This possibility should be considered during full analysis of the animal bone from Area A.

4.4.4: Insect Remains (Area A) by David Smith

Quantity/ provenance and dating

The assessed insect remains derived from spot samples taken from a number of datable features during excavation. The insect fragments examined here were recovered from 15-20 litre samples taken as general biological samples from the lower, waterlogged fills of enclosure ditches. In Area E/F the features sampled comprised two ditches (F913/3359 and F1085/3594), a pit (F944/3362). Table 12

provides further details of the sample compositions from Area E/F. In Area A the features sampled comprised a possible animal drinking trough (F209/1464 and 1470), a ditch (F138/1282-3, 1310), and a gully (F187/1369). Table 13 provides further details of the sample compositions from Area A.

Range and variety

Tables 12-13 summarise the results of assessment.

TABLE 12: The insect taxa from Area E/F

Sample no.	*86*	*88*	*159*
context no.	*3359*	*3362*	*3594*
feature no.	*F913*	*F944*	*F1085*
description.	*ditch*	*ditch*	*ditch*
weight kg.	*10.5*	*12*	*8.5*
volume lt.	*10*	*10*	*8*
COLEOPTERA			
Carabus sp.			
Dyschirius sp.		+	
Nebria spp.		+	
Elaphrus cupreus Duft.			
Clivina fossor (L.)		+	
Trechus spp.	+		
Bembidion spp.	+–	+++	
Bembidion guttula (F.)			
Harpalus spp.	+	+	
H. spp.			
Acupalpus sp.			
Pterostichus spp.		++	
P. madidus (F.)			
P. spp.			
Agonum sp.	+–	–+	
Platynus assimilis (Payk.)			
Platynus dorsalis (Pont.)	+		
Amara sp.	+–		

Feature no.	*F913*	*F944*	*F1085*
Badister spp.			
Dromius spp.			
Dytiscidae			
Hydroporus spp			
Agabus spp.			
Colymbetes fuscus (L.)			
Gyrinidae			
Gyrinus spp.			
Hydraenidae			
Hydraena spp.			
Ochthebius spp.		++	
O. spp.			
Limnebius spp.			
Hydrochus spp.			
Helophorus spp.		++	
Hydrophilidae			
Cercyon spp.		+	
Megasturum boletophagum (Marsh.)	+	+	
Laccobius spp		+	
Hydrobius fusipes (L.)			
Histeridae			
Onthophilus spp.			
Acritus spp.			
Histeridae Gen. & spp indet.			
Silphidae			
Silphidae Genus & spp. Indet.			
Orthoperidae			
Orthoperus spp.			
Staphylinidae			
Omalium spp.		+	
Lesteva sp.		+	
L. sp.			
Trogophloeus spp.		–	
Oxytelus spp.		++	
Platystethus arenarius (Fourc.)		++	
Stenus spp.	+		
Stilicus orbiculatus (Payk.)			
Lathrobium spp			
Gyrohypnus punctulatus (Payk.)			
Xantholinus spp.	+	++	
Othius spp.			
Philonthus spp.			
Ocypus sp.	+		
Quedius spp.			
Tachinus spp.	++	++	

Feature no.	*F913*	*F941*	*F1095*
Tachyporus spp.	++	+-	
Mycetophorus spp.			
Aleocharinae Gen. & spp. indet.			
Cantharidae			
Cantharid spp.			
Elateridae			
Agroites spp.	+		
Athous spp.			
Adelocera murina (L.)	+		
Dryopidae			
Dryops spp.			
Elmis aenea (Mull.)			
Heteroceridae			
Heterocerus sp.			
Cryptophagidae			
Cryptophagus spp.			
Atonaria spp.			
Lathridiidae			
Lathridius minutus (Group)	+	+	
Corticaria spp.			
Sample no.	*86*	*88*	*159*
Anobiidae			
Anobium punctatum spp.		+	
Ptinidae			
Ptinus fur (L.)	+	+	
Scarabaeidae			
Oxymus sivestris		++	
Geotrupes spp.		-+	
Othophagus spp.			
Aphodius spp.	+1	++-+	
		+	
Pyllopertha horticola (L.)	+	++	
Chyrsomelidae			
Donacia spp.			
Phyllotreta spp.	+	+	
Cassida sp.			
Scolytidae			
Scolytus sp	-		
Curculionidae			
Apion spp.	+ 1	+-+	
Otiorhynchus sp.			
Sitona spp.		+-+	
Hypera spp.		++	
Pyllobius spp.			

Feature no	*F913*	*F934*	*F1085*
Bagous spp.			
Tanysphyrus lemnae (Payk.)			
Notaris spp.			
Ceutorhynchus spp.	+	+	
Rhinoecus spp.			
Mecinus pyraster (Hbst.)	+		
Gymnetron pascuorum (Gyll.)	+	+	
G. spp.			

TABLE 13: The insect taxa from Area A.

Sample no.	*39*	*45*	*95*	*103*	*144*	*145*
Context no.	*1283*	*1310*	*1369*	*1282*	*1470*	*1464*
Feature no.	*F138*	*F138*	*F187*	*F138*	*F209*	*F209*
Description.	*ditch*	*ditch*	*gully*	*ditch*	*tank*	*tank*
Weight kg.	*13*	*16.5*	*10*	*10*	*14*	*15*
Volume lt.	*8*	*10*	*9*	*10*	*10*	*9*
COLEOPTERA						
Carabus sp.	-	-	-	*	*	-
Leistus spp.	-	*	-	*	-	*
Nebria spp.	-	-	-	-	**	*
Elaphrus cupreus Duft.	*	-	-	-	-	-
Clivina fossor (L.)	*	-	-	**	-	-
Trechus spp.	*	**	-	-	*	-
Bembidion spp.	***	*	-	***	***	-
Bembidion guttula (F.)	*	-	-	***	-	-
Harpalus. rupicola Sturm.	*	*	-	-	-	-
H. spp.	-	-	-	***	-	-
Acupalpus sp.	-	-	-	*	-	-
Pterostichus melanarius (Ill.)	*	-	-	***	**	-
P. madidus (F.)	-	-	-	*	-	-
P. spp.		*	-	-	-	-
Agonum sp.	**	*	-	***	*	-
Platynus assimilis (Payk.)	*	-	-	-	-	-
Platynus dorsalis (Pont.)	*	-	-	*	-	-
Amara sp.	**	***	-	***	**	-
Dromius spp.	-	-	-	-	-	*
Dytiscidae						
Hydroporus spp.	*	*	-	**	-	-
Agabus spp.	**	-		**	-	-
Colymbetes fuscus (L.)	-	-	-	*	*	-
Gyrinidae						
Gyrinus spp	-	-	-	-	*	-
Hydraenidae						
Hydraena spp.	**			-	-	-
Ochthebius minimus (F.)	**	**	-	*	-	*
O. spp.	***	**	-	****	***	**
Limnebius spp	*	*	-	**	-	-

Feature no.	*F138*	*F138*	*F187*	*F138*	*F209*	*F209*
Hydrochus spp.	-	*	-	-	-	-
Heloporus spp.	***	****	-	****	**	-
Hydrophilidae						
Cercyon spp.	***	-	-	****	**	-
Hydrobius fusipes (L.)	*	*	-	**	-	*
Histeridae						
Onthophilus spp.	**	*	-	*	-	*
Acritus spp.	-	-	-	***	-	-
Histeridae Gen. & spp indet.	*	-	-	*	*	-
Silphidae						
Silphidae Genus & spp. indet.	-	-	-	-	*	-
Orthoperidae						
Orthoperus spp.	*	*	-	**	-	-
Staphylinidae						
Lesteva longelytrata (Goeze)	-	-	-	*	*	-
L. sp.	-	-	-	*	-	*
Trogophloeus spp.	*	***	-	***	***	**
Oxytelus rugosus (F.)	***	*	-	***	-	-
Platystethus arenarius (Fourc.)	***	**	-	**	**	-
Stenus spp.	*	-	-	*	**	*
Stilicus orbiculatus (Payk.)	*	-	-	-	-	-
Lathrobium spp.	-	-	-	-	-	*
Gyrohypnus punctulatus (Payk.)	*	-	-	*	*	-
Xantholinus spp.	**	***	-	***	-	-
Othius spp.	-	-	-	-	-	-
Philonthus spp.	-	-	-	**	-	-
Quedius spp.	-	-	-	*	-	-
Tachinus spp.	**	*	-	***	-	*
Tachyporus spp.	-	**	-	**	*	*
Mycetophorus spp.	-	-	-	*	-	-
Aleocharinae Gen. & spp. indet.	*	**	**	***	**	**
Cantharidae						
Cantharid spp.	-	-	-	*	*	-
Elateridae						
Agroites spp.	*	-	-	*	-	*
Athous spp.	-	-	-	*	*	-
Adelocera murina (L.)	-	-	-	*	*	-
Dryopidae						
Dryops spp.	*	-	-	-	-	
Elmis aenea (Müll.)	-	*	-	-	-	-
Heteroceridae						
Heterocerus sp.	*	-	-	-	-	-

Feature no.	*F138*	*F138*	*F187*	*F138*	*F209*	*F209*
Cryptophagidae						
Cryptophagus spp.	*		-	*	*	-
Atomaria spp.	-	*	-	**	*	-
Lathridiidae						
Lathridius minutus (Group)	*	**	-	**	*	*
Corticaria spp.	*	*	-	-	*	-
Anobiidae						
Anobium punctatum spp.	*	*	-	*	*	*
Ptinidae						
Ptinus fur (L.)	-	-	-	-	*	*
Scarabaeidae						
Oxymus sivestris	*	*	-	**	*	-
Geotrupes spp.	*	-	-	-	*	*
Othophagus spp.			-	*	-	*
Aphodius spp.	****	****	-	****	****	**
Pyllopertha horticola (L.)	-	-	-	-	-	-
Chyrsomelidae						
Donacia spp.	-	-	-	-	*	-
Phyllotreta spp.	*	**	-	*	*	-
Cassida sp.	-	-	-	*	-	-
Cuculionidae						
Apion spp.	**	**	-	**	****	***
Sitona spp.	*	**	-	**	*	*
Pyllobius spp.	*	-	-	*	*	-
Bagous spp.	-	-	-	-	-	*
Tanysphyrus lemnae (Payk.)	-	-	-	*	-	*
Notaris spp.	-	-	-	*	*	-
Ceutorhynchus spp.	**	*	-	**	**	*
Rhinocus spp.	*	*	-	*	-	-
Gymnetron pascuorum (Gyll.)	-	-	-	-	***	*
G. spp.	-	-	-	*	-	-

Note: the numbers of individuals present is estimated in the following way * = 1-2 individuals ** = 2-5 individuals *** = 5-10 individuals **** = 20+ individuals. The taxonomy used for the Coleoptera (beetles) follows that of Lucht (1987).

Aims and methodology

The overall aim of the assessment was to determine if insects were present and if so, to establish if the faunas are of interpretative value.
The detailed aims of the assessment were as follows:
1) To determine if further study of the insect remains could elucidate the hydrology and water conditions within the Romano-British settlements.
2) To establish if the insect remains could contribute towards an interpretation of the flora in the surrounding landscape, and the nature of its use.

3) To consider if the insect remains can contribute materially to the interpretation of the Area E/F and Area A settlements.

The samples were processed using the standard method of paraffin flotation as outlined in Kenward *et al.* (1980). This paraffin flot was then sorted under a binocular microscope and where applicable the insect fragments were identified by comparison with the Gorham Collection of British Coleoptera in the Department of Ancient History and Archaeology, University of Birmingham.

The system for 'scanning' faunas follows Kenward *et al.* (1985). On average the time taken to scan each sample was around 20 minutes. All the taxa present have been identified as far as was possible. It should be noted that the insect identifications presented in this assessment are necessarily provisional. Equally, many of the taxa present could be identified down to species level during a full analysis, which would produce more detailed information. Therefore, these faunas should be regarded as incomplete and possibly biased. Equally, the various proportions of insects identified at this stage are notional and subjective.

Statement of potential

- Presence and interpretation of faunas

These samples all produced insect faunas. These mainly contained the remains of Coleoptera (beetles) and Tricoptera (caddis flies). These were very well preserved. Many fragments still maintained a full set of setae (hairs) and/or scales which will make identification possible for almost all the species present. In the majority of cases the faunas were moderately large, except for that from feature F138/1282 which is exceptionally large. It is certain, even from this assessment, that these faunas are interpretable. Key aspects of the potential of these insect assemblages are discussed below.

- Water conditions in the ditches and other features

It is clear that the features were filled with slow flowing and stagnant waters in the Romano-British period. This is the habitat favoured by the majority of the Dytiscidae, Hydraenidae and Hydrophilidae water beetles recovered. Some of these features also contained numbers of *Hydrochus* which are associated with stagnant rather than fresh waters. The presence of numbers of the larger diving beetles, such as *Agabus* and *Colymbetes fuscus*, and the Whirligig beetle, *Gyrinus*, suggests that some of these features contained open, permanent waters of some depth. More details as to flow rate and the chemistry of these waters could be obtained by an examination of the caddis remains in these faunas. It is also clear that the animal drinking trough (feature F209) remained open throughout the build up of these water-lain deposits, and that no material from either settlement or the fields was dumped into it.

There are only a few species of beetle, such as the leaf beetle *Donacia* spp. and the weevil *Notaris* spp. which suggest that these features contained aquatic plants. This may suggest that these ditches were kept relatively clear of aquatic vegetation during

their use. This interpretation can be confirmed by an examination of the plant-macro remains present.

- Land use

The probable presence of pasture is clearly suggested by many of the Carabidiae (ground beetles) present. The majority of these were associated with damp ground in agricultural use.

The presence of pasture and grassland is also clearly indicated in the faunas examined. There are an extremely large numbers of species which are associated with herbivore dung lying in open ground. These species are various members of the Scarabaeidae. In particular, the various species of *Aphodius*, *Onthophagus* and *Geotrupes* present. This would suggest that large numbers of stock animals, probably cattle, were nearby.

Also present, in all phases, is a range of species of beetle which feed in grass turf, or on species of plants which are common in pasture or meadow-lands, such as the Elateridae or 'click beetles'. In addition, there also ise a range of species of weevils present which feed on plants commonly found in grassland. It is suspected that these species may have a narrower range of dissemination across the landscape; perhaps indicating the presence of pasture directly adjacent to the ditch. Amongst the plants associated with these weevils are *Rumex* (dock; usually the host plants of *Apion*), *Trifolium* (clovers) (the host plants of the various species of *Sitona* and *Hypera*) and *Plantago* (the host plant of the *Gymneton* species).

A further identification of many of these taxa to species should allow a more detailed reconstruction of the plant life and use of these pastures.

- The environment

There are no indications of the presence of old or mature woodland in the area during these phases of occupation. This is not a surprise since it is thought that this area of Britain had been cleared extensively of woodland by the Romano-British period. The presence of a cleared landscape from the Late Bronze Age onwards has been seen at a range of other archaeological sites such as the Iron Age and Roman settlements at Farmoor, Oxfordshire (Robinson 1979), the Iron Age settlement ditches at Minges Ditches, Oxon (Robinson 1993) and the Iron Age and Roman ditches at Rectory Farm, West Deeping, Cambridgeshire (Smith in preparation).

- Settlement evidence

Work on a number of both rural and urban sites in the last twenty years has clearly demonstrated that there is a fauna of insects which is associated with human occupation in the archaeological record (e.g. Hall *et al.* 1987, Kenward and Hall 1990, Kenward and Allison 1994). However, little of this fauna was recovered from these ditches. This suggests that settlement areas may not have immediately adjoined the features assessed for insect remains.

These faunas are amongst the largest and best preserved insect fauna obtained from a Roman enclosure ditch system in rural Roman Britain. Assessment has confirmed that the insect remains have the potential to be very informative about a number of aspects of the environment and the Romano-British activity. Based on this preliminary assessment, the suggested broad similarity between the Area E/F (Phase 4) and Area A (mainly Phase 5-6) faunas requires further consideration, given the marked difference in the layouts of the two excavated Romano-British settlement complexes. Detailed study of these insect faunas, as is recommended, would allow many of the conclusions put forward here to be tested and possibly confirmed, and a more detailed reconstruction of the broader environments associated with the enclosure ditches to be obtained. Therefore, it is recommended, that a full analysis of the insect faunas examined here takes place. This should include an identification of all taxa down to species level, if possible, and a full count of individuals.

4.4.5: Charred plant remains (Area E/F only) by Wendy Smith

Quantity

Samples were taken from sealed deposits at the excavator's discretion. In total, 30 samples from ditch or pit fills were assessed for charred plant remains. Archaeobotanical samples collected during excavation and processed on-site were assessed for charred plant remains in order to determine 1) if plant remains were present; 2) if the plant remains recovered provide information on human activity at the site, in particular cultivation or other agricultural activities; and 3) to establish if the plant remains could provide information on the surrounding environment.

On-site flotation of samples from Area A produced insufficient material to warrant assessment.

Provenance/dating

Details of the feature fills assessed are provided in Table 14.

Range/variety

Table 14 summarises the assessment results for all 30 samples and also indicates which samples are recommended for further analysis. Many of the flots also contained modern roots, sometimes in large quantities, as well as dried-out waterlogged plant remains, charcoal, bones, and molluscs. This additional information has also been noted in the table.

TABLE 14: The charred plant remains

Feature/c ontext	*Sample /flot Volume (L)*	*Comments*	*Other observations* Key: + = <10ml, ++ = >10 ml but <100ml, +++ = > 100 ml
F617.01/ 2243	20.01	Charred knotgrass / dock (*Polygonum* sp. / *Rumex* sp.) seed and unidentified seed observed. 100% scanned. Assessed as POOR.	Modern root present. Also modern goosefoot (*Chenopodium* sp.) seeds observed. Charcoal = +.
F629/ 2291	22/0.66	Carbonised wheat grain and indeterminate cereal grain observed. 100% scanned. Assessed as POOR.	Material appears to be a dried out waterlogged deposit. Twigs, common nettle (*Urtica dioica* L.), bramble (*Rubus* sp.), shrub thorn - Rose family (Rosaceae), henbane (*Hyoscyamus niger* L.) and buttercup (*Ranunculus* spp.) seeds observed. Charcoal = +.
F629.01/ 2341#	22/0140	Charred clover and vetch / vetchling (Trifoliate and *Vicia / Lathyrus* sp.) seen. Wheat and barley grain. Wheat glume base and cereal culm node. Weed/wild plants observed include: goosefoot (*Chenopodium* sp. - possibly modern), possible plantain (cf. *Plantago* sp.), and black bindweed (*Fallopia convolvulus* (L.) Á. Löve). 80% scanned. Assessed as GOOD.	Bone, modern root and pottery also observed.
F629.02/ 2342	20/0.010	Charred weed/wild seeds observed include: vetch / vetching (*Vicia/Lathyrus* sp.), common chickweed (*Stellaria media* s.l.), goosefoot (*Chenopodium* sp. - ? some modern) and orache (*Atriplex* sp.). Unidentified cereal grain also observed. 100% scanned. Assessed as POOR.	Modern root observed. Charcoal = +
F629.02/ 2351	18/0.025	Charred wheat and unidentified cereal grain observed. Unidentified large grass (Poaceae) also seen. 100% scanned. Assessed as POOR.	Modern root, molluscs, and bone present. Charcoal = +. Possibly dried-out waterlogged material also present.
F629.02/ 2352#	20/0.105	Cereal grain - wheat and barley. Barley rachis - Six-rowed type seen. Wheat glume bases, some clearly spelt (*Triticum spelta* L.). Weed/wild seeds observed include: vetch/vetchling (*Vicia/Lathyrus* sp.), dock (*Rumex* sp.), knotgrass (*Polygonum* sp.), black bindweed (*Fallopia convolvulus* (L.) Á. Löve), and unidentified large grasses (Poaceae). Approximately 50% scanned. Assessed as RICH.	Molluscs and bone observed.
F628.02/ 2354	10/0.005	One or two unidentified carbonised weed/wild seeds. 100% scanned. Assessed as POOR.	Modern root. Charcoal = +.
F629.01/ 2355	20/0.150	Charred wheat grain and unidentified cereal grain. Large legume (Fabaceae - *Vicia* type). Approximately 50% scanned. Assessed as POOR.	Appears to be dried out waterlogged material. Common nettle (*Urtica dioica* L.), twigs and thorns, thistle (*Cirsium* sp), goosefoot (*Chenopodium* sp.), common chickweed (*Stellaria media* s.l.), henbane (*Hyoscyamus niger* L.) and mallow (*Malva* sp.) Deposit has good potential for waterlogged plant remains.
F629.02/ 2364	19/0.200	Charred wheat glume base. Hulled wheat glume base - possibly emmer (Triticum dicoccum Schübl), as well as definite spelt (*Triticum spelta* L.) glume base. Charred ribwort plantain (*Plantago* cf. *lanceolata* L.). Approximately 25% scanned. Assessed as POOR.	Appears to be dried out waterlogged material. Seeds observed include: common nettle (*Urtica dioica* L.), cotton thistle (*Onopordum acanthium* L.), poppy (*Papaver rhoeas* type), figwort (Scrophulariaceae), henbane (*Hyoscyamus niger* L.), dock (*Rumex* sp.), buttercup (*Ranunculus* sp. subgenus Batrachium), and bramble (*Rubus* sp.). Deposit has good potential for waterlogged plant remains.
F913.04/ 3484	20/0.05	Charred barley and wheat grain. Vetch / vetching (*Vicia* sp. /*Lathyrus* sp.) and hazel nut shell (*Corylus avellana* L.). 100% scanned. Assessed as POOR.	Modern root. Bone. Charcoal = +
F978 3465	20/0.030	Charred wheat grain and unidentified cereal grain. Large legume unidentified. 100% scanned. Assessed as POOR.	Modern root. Bone. Charcoal = ++
F987.02 4024	20/0.060	Carbonized barley grain some clearly hulled. Wheat grain and common vetch (*Vicia sativa* L.). Possible hulled wheat glume base and basal cereal rachis internode. 100% scanned. Assessed as POOR to GOOD	Mollusca. Bone.

Feature/context	*Sample/ flot volume (L)*	*Comments*	*Other observations*
F987.02/ 4035	20/0.030	Charred hulled wheat glume bases, some clearly spelt (*Triticum spelta* L.). Wheat and barley grain as well as indeterminate cereal grain observed. Vetch / vetchling (Vicia sp. / Lathyrus sp.), large grass (cf. Bromus sp.), and common chickweed (*Stellaria media* s.l.). 100% scanned. Assessed as POOR to GOOD.	Possibly includes dried-out waterlogged material. Modern root and bone observed. Charcoal = +.
F992/ 4052#	20/0.100	Barley and wheat grain. One possible emmer-like grain (cf. *Triticum dicoccum* Schübl.). Hulled wheat glume bases, some clearly spelt (*Triticum spelta* L.). Bedstraws (*Galium* sp. - possibly modern). 100% scanned. Assessed as GOOD to RICH.	Modern root. Bone. Charcoal = ++.
F1104/ 3661	20/0.020	Hulled barley grain. 100% scanned. Assessed as POOR.	Modern root. Molluscs. Charcoal = +.
F1041.01 / 3527	20/0.010	No observed charred macro-fossils. 100% scanned. Assessed as POOR.	Modern root. Charcoal = +. Some material still encrusted in soil.
F1054/ 3553	20/0.100	Large grass (Poaceae - unidentified) seed. Wheat rachis fragment. 60% scanned. Assessed as POOR.	Modern root. Bone. Charcoal = ++. Not sure if modern or dried-out waterlogged weed/wild seeds present.
F1065/ 3579#	20/0.080	Oat (*Avena* sp.), barley (some clearly hulled), and wheat grain. Spelt (*Triticum spelta* L.) glume base and possible emmer (cf. *Triticum dicoccum* Schübl.) spikelet fork, and barley rachis internodes. Dock (*Rumex* sp.), knotgrass (*Polygonum aviculare* L.), and black bindweed (*Fallopia convolvulus* (L.) Á. Löve. 80% scanned. Assessed as RICH.	Modern root. Molluscs. Bone. Charcoal = ++.
F1085/ 3568	20/0.015	No charred plant macro-fossils observed. 100% scanned. Assessed as POOR.	Modern root. Molluscs. Charcoal = +.
F1085/ 3569	n/a/0.025	Barley grain. Possible charred common nettle (*Urtica dioica* L.). 100% scanned. Assessed as POOR.	Modern root. Molluscs. Bone. Charcoal = +.
F1077/ 3551	20/0.110	Barley grain (some clearly hulled). Hazel nut shell (*Corylus avellana* L.), vetch / vetchling (*Vicia* sp. / *Lathyrus* sp.) and bedstraw (*Galium* sp. - possibly modern). 90% scanned. Assessed as POOR to GOOD.	Modern root. Bone. Charcoal = +.
F1068/ 3587	n/a/0.090	Knotgrass (*Polygonum* sp.). 100% scanned. Assessed as POOR.	Modern root. Bone. Charcoal = +.
F1072/ 3591	10/0.040	Possible hulled barley. Dock (*Rumex* sp.). 100% scanned. Assessed as POOR.	Modern root. Charcoal = +.
F1112/ 3698	20/0.070	Barley grain, hulled wheat glume base, clover (*Trifolium* sp. / *Medicago* sp./ *Melilotus* sp.) and bedstraw (*Galium* sp.). 100% scanned. Assessed as POOR.	Modern root. Molluscs. Possibly dried-out waterlogged material. Charcoal = +.
F1114.02 /3732	20/0.030	Unidentified charred cereal grain. 100% scanned. Assessed as POOR.	Modern root. A lot of soil accretion on plant material.
F1125/ 3713	20/0.065	Barley grain and wheat grain. Hulled wheat glume bases, some clearly spelt (*Triticum spelta* L.). Weed/wild plants include: stinking chamomile (*Anthemis cotula* L.), goosefoot (*Chenopodium* sp.), clover (*Trifolium* sp. / *Medicago* sp. / *Melilotus* sp.), common chickweed (*Stellaria media* s.l.), vetch / vetchling (*Vicia* sp. / *Lathyrus* sp.). 100% scanned. Assessed as POOR to GOOD.	Possibly dried-out waterlogged material - a lot of elder (*Sambucus nigra* L.) observed. Modern root. Molluscs. Charcoal = +.
F1125/ 3688	20/0.050	Wheat grain. Dock (*Rumex* sp.), large grass (Poaceae - unidentified), and sedge (*Carex* sp. - 3 sided). 100% scanned. Assessed as POOR.	Modern root. Molluscs. Bone. Charcoal = +.
F1125/ 3687	20/0.030	Dock (*Rumex* sp.), vetch / vetchling (*Vicia* sp. / *Lathyrus* sp.), unidentified seed (*Polygonum* sp. / *Rumex* sp. / *Carex* sp.). 100% scanned. Assessed as POOR.	Modern root. Bone. Charcoal = +.
F1160/ 3856#	20/0.040	Vetch / vetchling (*Vicia* sp. / *Lathyrus* sp.), oat (*Avena* sp.), brome (*Bromus* sp.). Hulled wheat glume bases, some of which clearly are spelt (*Triticum spelta* L.). Barley rachis internodes. Wheat grain. 50% scanned. Assessed as GOOD to RICH.	Appears to be dried-out waterlogged material. Weed/wild plants observed include dock (*Rumex* sp.), cotton thistle (*Onopordum acanthium* L.), henbane (*Hyoscyamus niger* L.), and common nettle (*Urtica dioica* L.). Molluscs and bone also observed.
F1104/ 3664	20/0.010	Barley grain. 100% scanned. Assessed as POOR.	-

KEY: # = Further analysis recommended.

Assessment methodology

The samples were processed on site during the excavation using water flotation. The flots (the material which floats on the water's surface) were sieved between 500-600 microns. The heavy residues (the material which does not float) were wet sieved to 1mm. Both were air dried at room temperature and bagged when fully dry. The residues have not been examined for this assessment and, therefore, the results presented here are solely based on the flots.

The flots were scanned by the author using a low-powered binocular microscope at magnifications between x12 and x25. The assessment was done through rapid scanning of samples and, therefore, the results presented in the table are provisional. Preliminary identifications were made without consulting reference collections and it is possible that some seeds, especially smaller sized seeds, may have been overlooked. Nomenclature for the plant remains follows Stace (1997) for indigenous species and Zohary and Hopf (1994) for the economic species. The traditional binomial system for the cereals has been used here, following Zohary and Hopf (1994, table 3, 24 and table 5, 58).

Statement of potential

Four samples (from features F629.02/2352, F992/4052, F1065/3579, and F1160/3856) were assessed as sufficiently rich to merit further analysis. In addition, one further sample (feature F629.01/2341) is probably also worth analysis. In all cases these samples primarily contained cereal grain and cereal chaff. Some of these samples also contained good amounts of weed/wild plants.

Full analysis of these five samples should:

- Establish the types of cereal crops used in the Romano-British period.
- Provide evidence of cereal processing activities carried out at/or near the settlements.
- Potentially, the analysis of any accompanying weed/wild seeds may provide information on soil conditions and possibly also concerning harvesting methods.
- Potentially, the analysis of these assemblages may provide insight into the pattern of deposition of material in the pits and ditches at the settlements.

The waterlogged plant remains are assessed separately below (Section 4.4.6 below).

4.4.6: Pollen and waterlogged plant remains (Area E/F only) by James Greig

Quantity, provenance/dating

Table 15 summarises the samples assessed. One sample (F944) derived from a pit. The remaining samples (F913.03, F1152.02, F1125 and F1007) derived from lower enclosure ditch fills.

TABLE 15: Samples assessed for waterlogged plant remains and pollen

Feature	*Context*	*Quantity processed*
F913.03	3359	100 ml
F944	3362	100 ml
F1152.02	3594	100 ml
F1125	3714	100 ml
F1007	4150	100 ml

Range/variety

All five samples contained significant amounts of plant remains (Table 16), and varied floras which could provide extensive information concerning their surroundings. Pollen (Table 17) was well preserved and abundant in two of the three samples investigated. All the botanical evidence will be discussed together.

TABLE 16: Waterlogged plant remains, names and order
(According to Stace (1991), Kent (1992). The remains are waterlogged seeds unless marked * for charred seeds).

Feature	*F913.3*	*F944*	*F1007*	*F1152*	*F1125*	
Pteridium frond	-	1	-	-	-	
Ranunculus subg. *Batrachium* L.	-	-	-	10	-	crowfoot
Papaver somniferum L.	-	-	4	-	-	opium poppy
Papaver cf. *argemone* L.	-	-	-	4	-	prickly poppy
Papaver sp.	-	-	-	-	1	poppy
Urtica dioica L.	67	119	178	14	96	nettle
Urtica urens L.	?	2	1	-	-	small nettle
Chenopodium ficifolium Smith	-	-	1	-	-	fig-leaved goosefoot
Chenopodium album L.	-	-	8	-	-	fat-hen
Chenopodium sp.	-	4	-	-	-	goosefoot
Atriplex sp.	-	-	1	-	-	orache
Chenopodiaceae	-	-	1	-	-	goosefoot family
Montia fontana ssp. *minor* Hayw.	-	-	-	1	-	blinks
Moehringia trinervia (L.) Clairv	-	-	1	-	-	three nerved sandwort
Stellaria sp.	2	-	-	-	-	chickweed
Stellaria media (L.) Vill.		2	20		4	chickweed
S. uliginosa Murray	-	1	-	-	-	bog stitchwort
Cerastium arvense L. /fontanum Baumg.	-	-	-	-	1	mouse-ear
Polygonum aviculare L.	-	2	-	-	1	knotgrass
Rumex acetosella L.		1	1	1	1	sheep's sorrel
Rumex sp.	-	-	12+1 *	-	1,1*	docks
Hypericum sp.	-	-	-	-	1	St John's-wort
cf. *Malva* sp.	1	-	-	-	-	mallow
Salix sp. (seed capsule)	1	1	-	-	-	willow
Salix sp. (bud)	1		-	-	1	willow

Feature	*F9133*	*F944*	*F1007*	*F1152*	*F1125*	
Alliaria petiolata (M. Bieb.) Cavara & Grande	-	-	1	-	-	garlic mustard
Brassica sp.	-	-	1	-	-	cabbages, mustard
Prunus/Crataegus thorn	-	-	1	-	-	sloe/hawthorn
Potentilla reptans L.	-	-	2	1	-	creeping cinquefoil
Anthriscus caucalis M. Bieb.	-	1	1	-	-	rough chervil
Conium maculatum L.	-	-	1	-	-	hemlock
cf. *Heracleum sphondylium* L.	-	-	1	-	-	hogweed
Apiaceae	2	-	-	1	1	umbellifer family
Solanum nigrum L.	3	1	1	-	2	black nightshade
Hyoscyamus niger L.	-	3	-	1	1	henbane
Lamium sp.	7	-	5	4	4	dead nettle
Sambucus nigra L.	2	-	2	1	10	elder
Galium sp.	-	-	1	-	-	bedstraw
Arctium sp.	1	-	-	-	-	burdock
Carduus sp.	2	-	2	-	-	thistle
Cirsium sp.	1	1	1	3	1	spear thistle
Onopordum acanthium L.	-	-	-	4	-	cotton thistle
Lapsana communis L.	1	-	-	-	-	nipplewort
Leontodon sp.	-	1	-	1	-	hawkbit
Sonchus oleraceus L.	1	-	-	-	-	sow-thistle
S. asper (L.) Hill	-	-	11	-	-	sow-thistle
Anthemis cotula L.	-	-	-	-	1*	stinking mayweed
Tripleurospermum inodorum (L.) Schultze-Bip.	-	-	1*	-	-	scentless mayweed
Lemna sp.	-	-	1	-	-	duckweed
Juncus sp.	-	-	-	2	-	rush
Eleocharis sp.	-	-	-	-	1	spike-rush
Carex subg. *Vignea*	-	-	-	-	1	sedges
Carex subg. *Carex*	-	1	-	-	-	sedges
Poaceae nfi	-	9	1, 1*	3	3	grasses
Triticum sp. glume bases	-	-	2*	-	-	wheat
Triticum sp.	-	-	1*	-	-	wheat grain
Cerealia	-	1	-	-	1*	cereals
charcoal fragments	-	+	-	+	+	
tree bud scales	-			-	-	
wood	-	-	-	-	+	
twigs	+	-	-	-	-	

TABLE 17: Pollen, spores and parasite ova

Features	*F944*	*F1007*	*F11 25*	
Pteridium	4	2	3	bracken
Polypodium	-	1		polypody
Pinus	1		1	pine
Ranunculus-tp.	1	2		buttercup, crowfoot
Cannabis-tp.	1	-	-	hemp, hop
Urtica	3	-	-	nettle
Quercus	1	1	-	oak
Alnus	1			alder
Corylus	3	1	-	hazel
Chenopodiaceae	2	2	-	goosefoot
Caryophyllaceae	1	4	-	stitchwort family
Spergula	-	1	-	spurrey
Persicaria bistorta-tp.	1	-	-	bistort etc.
Rumex-tp.	7	5	-	docks and sorrels
Salix	1	-	-	willow
Brassicaceae	4	-	-	brassicas
Filipendula	-	1	-	meadowsweet
Prunus-tp.	1	-	-	sloe, plum etc.
Trifolium repens-tp.	3	-	-	white clover
Apiaceae	1	-	1	umbellifers
Plantago lanceolata	11	5	-	ribwort plantain
Fraxinus	-	1	-	ash
Galium tp.	1	1	-	bedstraws
Sambucus nigra	-	-	4	elder
Arctium tp	-	2	-	burdocks
Cirsium tp.	2	3	-	thistles
Centaurea nigra	2	1	-	knapweed
Lactuceae	53	22	25	a group of composites
Aster-tp	-	9	-	daisies etc
Anthemis-tp.	9	83	-	mayweeds etc.
Cyperaceae	4	2	1	sedges
Poaceae	87	96	3	grasses
Cerealia-tp.	2	17	-	cereals
unidentified	2	3	-	
parasite ova				
Trichuris	1	1	-	whipworm

Crop plants

There was a small amount of charred cereal remains from feature F1007/4158. *Papaver somniferum* (opium poppy) which was present in this sample could have been cultivated. Cereal type pollen was present from features F944 and F1152.02. *Cannabis* type (probably hemp) pollen was present in feature F944. *Brassica* sp. (possible cabbage) was also found.

Weeds

The weeds can be divided into a number of groups. First, there were some probable cornfield weeds, such as *Tripleurospermum inodorum* (scentless mayweed), which was present charred, and a charred Rumex could also be a weed, both deriving from

feature F1007. A charred *Anthemis cotula* (stinking mayweed) was also found in feature F1125. These are both rather specific cornfield weeds, and the fact that they have been charred suggests a connection with human activities, such as grain cleaning and processing. These results show the potential for discovering something of the crops and economy of the site.

Secondly, some other more general annual weeds such as *Urtica urens* (small nettle), *Chenopodium* spp. (goosefoot) and *Stellaria media* (chickweed) indicate open, probably-cultivated ground in the vicinity.

Thirdly, there is also a flora of 'typical Roman-British weeds and wayside plants' such as *Papaver somniferum* (opium poppy), *Anthriscus caucalis* (rough chervil), *Conium maculatum* (hemlock), *Hyoscyamus niger* (henbane), and *Onopordum, acanthium* (woolly thistle). Many of these, such as *Anthriscus*, *Hyoscyamus* and *Onopordum* really need warmer conditions than those of today, occurring here rather rarely, although they are more common on the continent. The are also often found on Romano-British sites. Studying more such sites will hopefully provide enough evidence to try to understand why these weeds were more common in the past, and what they can tell us about the Romano-British sites where they have been found.

Finally, the overgrown nature of the site at the time of deposit formation is underlined by the vast numbers of *Urtica dioica* (nettle) seeds, and a large flora of other weeds.

Grassland

Grassland plants include *Cerastium arvense/fontanum* (mouse-ear), *Trifolium repens* type (white clover), *Centaurea nigra* (knapweed) (pollen only), possibly *Heracleum sphondylium* (hogweed), *Plantago lanceolata* (ribwort plantain), *Leontodon* sp. (hawkbit) and probably much of the large Lactuceae pollen record which comes from plants within the group including hawkbits, and at least some of the large pollen and moderate macrofossil record of grasses. Further evidence from larger floras may be able to establish whether the grassland was growing locally, and if some of this material could from come from grassy material brought to the site, such as hay.

Woodland

Trees and woodland are hardly in evidence; they are not well represented among macrofossils. *Sambucus nigra* (elder) seeds and pollen were found in several samples, and a thorn of *Prunus/Crataegus* (sloe or hawthorn), and some seed capsules and buds of *Salix* (willow). The pollen records amounted to a few scattered records, so the surroundings would appear to have been mainly unwooded. This is what can be expected in an occupied site, where grazing prevents the growth of most trees, although elder grows up quickly where land enriched by former occupation is abandoned, and thorn bushes survive grazing and were indeed often used as hedging. Ferns and bracken were recorded as bracken frond in feature F944 and spores in a number of samples.

Wetland

There was little sign of wetland and aquatic vegetation, apart from the record of *Ranunculus* subg *Batrachium* (water crowfoot) and of *Montia fontana* (blinks) in feature F1152.02, and the single *Lemna* (duckweed) seed in feature F1007. The fact that waterlogged seeds were preserved at all suggests that there were wet ditches or waterholes, which could be expected to have held a small aquatic and wetland flora.

Parasites

Parasite ova of *Trichuris* were seen in the pollen preparations from features F944 and F1007. These are likely to have been widespread in and around habitation sites, coming from human faeces and those of animals such as pigs. The find suggests sewage contamination in the features.

Assessment methodology

The macrofossil material had been wet sieved prior to assessment. The whole amount of organic material was sorted under a stereo microscope, and the identifiable plant material extracted and named. The results are given in a seed list (Table 16) and a pollen list (Table 17).

Pollen samples were extracted from the bulk samples, and processed using the standard method; about 1 cubic centimetre sub-samples were dispersed in dilute NaOH and filtered through a 70 micron mesh to remove coarser material. The organic part of the sample was concentrated by swirl separating on a shallow dish. Fine material was removed by filtration on a 10 micron 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 pollen reference collection, seen with a Leitz Lablux microscope. Standard reference works were used, notably Fægri and Iversen (1989) and Andrew (1984).

Statement of potential

Further pollen counting would be desirable for the feature F944 and F1007 samples; the rather poor pollen preservation of the sample from feature F1125 does not justify further work. Other samples from this site would be worth sampling for pollen, because it seems that pollen is well-preserved in many of them, and pollen analysis can add significantly to the environmental information available for overall interpretation of the settlement sites and their immediate environs.

The five macrofossil samples show good potential from the rather poor material; it would be worth sieving out seeds from some more, previously-unprocessed material, to obtain a better set of floras. Other such samples with the potential for organic preservation should be examined. The analysis and reporting of charred plant remains, waterlogged plant remains, insect remains, and pollen should be integrated to provide the maximum information about the local environment.

Seeds are probably fairly well-preserved in the original samples, if they are processed in the near future. Pollen was well-preserved in some of these as well. Together, they have the potential for recovering very useful information about activities on the site, and its plant economy. Further pollen and seed work on the assessment samples, and work on further waterlogged samples, would be worthwhile

There is a number of other sites which have been investigated for their biota, such as Farmoor, near Oxford (Lambrick and Robinson 1978). The pattern of Roman occupation, reflected in the plant and animal remains found there, can be better interpreted by reference to a number of such sites. This is why it is useful to study such fairly similar assemblages of weeds, cultivated plants etc. in order to be able to relate them together and understand causes for the similarities and differences between them. Further analysis would contribute significantly towards the following themes:

- The contemporary environment

The pollen and waterlogged plant remains will provide information concerning the surrounding flora and fauna. In particular, it may be possible to elucidate evidence of changes in water level, including evidence for water management.

- The rural economy

Further analysis will contribute towards an understanding of the nature of the economy of the two Romano-British settlements, and also contribute towards an understanding of the relative importance of arable and pastoral farming in the vicinity.

- Periods of change

The data provided by the Phase 4 (Area E/F) and Phase 5-6 (Area A) settlements should be compared. Comparison should also be made between the prehistoric data and that for the Romano-British period, most notably for the Area E/F settlement which has demonstrated evidence of continuity in settlement from Phase 3 (Late Iron Age) into Phase 4 (the early-Romano-British period).

5.0: UPDATED PROJECT DESIGN

5.1: General

The river gravels along the west bank of the River Great Ouse between Buckden to the north and St. Neots to the south have been significantly affected by gravel extraction. Excavations have investigated nearby Romano-British settlement remains (e.g. Greenfield 1969). An overview of the archaeological resource of the Cambridgeshire river gravels (French and Wait 1988, figs 26-7: from the early prehistoric to the medieval periods) included a survey of the evidence from Little Paxton and the surrounding area. The report (French and Wait 1988, 78-9) identified enclosures, field systems and a temple of 3rd-4th century date both within and immediately surrounding the Phase 1-2 areas of the quarry, and highlighted their broader archaeological value.

Most recently, an overview of recent fieldwork in East Anglia (Going 1997) has highlighted the concentration of fieldwork investigations upon sites of higher-status, such as villas (1997, 37). The report notes that during investigations of such higher-status sites excavation has concentrated upon defining the layout and sequence of the main buildings, to the detriment of a fuller exploration of the evidence concerning the economic base of such settlements, and of the countryside as an integrated 'whole'. The overview highlights the need for work on a larger scale, as at Little Paxton which provides details of the setting of the agrarian features by analysis of the field systems, and of the finds, zoological and botanical data.

5.2: Key research themes

This section of the assessment concentrates upon highlighting the academic potential of the Romano-British settlement evidence, although it should be noted that the final report will integrate the Romano-British evidence into a single, themed, landscape-based, multi-phase interpretation of the excavated evidence. Some degree of 'overlap' is inevitable between the themes.

A number of research themes is considered briefly below:

1) Settlement and society

- Chronology

  Identifying the chronology of the Area E/F and Area A settlements is a priority, in order to place them within their wider contemporary context and, in particular, to, distinguish the later Late Iron Age activity from the early-Romano-British activity within the quarry concession.

  'Exploring Our Past' (English Heritage 1991, 36) also highlights the particular importance of the study of the early-Roman period in order to achieve a proper understanding of the Iron Age-early Romano-British transition, to understand if the changes archaeologically evident in the early-Romano-British period were the

result of 'Romanisation', or changes in later Late Iron Age trade contacts and/or agricultural practices. Similarly, the same report highlights the importance for study of the decline of society and economy at the end of the Romano-British period (represented at Little Paxton by Enclosure C, Area A) which is not clearly understood.

The existence of detailed excavation data of the preceding Late Iron Age landscape (represented by ditched enclosures and associated field systems), and the broader context provided by aerial photography within the wider Great Ouse Valley area, provides the opportunity to compare the patterns of landholding during the late prehistoric and throughout the Romano-British periods (e.g. as in the Welland Valley, Simpson *et al.* 1993).

- The two Romano-British settlements

The key aspect of the Romano-British settlement pattern is the two spatially discrete settlements, with little or no evidence for chronological overlap between them. The Area E/F settlement at Little Paxton appears to belong to that group of sites where settlement from the Late Iron Age was continuous, including Barton Court Farm, Oxfordshire (Miles 1986), Claydon Pike (Miles 1984) and Stanwick (Neal 1989). A possible element of desertion and re-arrangement is represented by the apparent shift of settlement from Area E/F to Area A. A possible Iron Age precursor for this later settlement is located mainly to the south of the excavated area (Jones and Ferris 1994). Other sites characterised by desertion by the early-Roman period include Farmoor, Oxfordshire (Lambrick and Robinson 1979), Fengate (Pryor 1984), Maxey (Pryor *et al* 1985), and Werrington (Mackreth 1988).

- Settlement and contemporary context

There is great variety in the Romano-British rural settlement forms revealed by excavation, ranging from small towns to farmsteads occupied by single or extended families. Wealth is also important in categorising rural settlement types, which can be defined to include villas and non-villa settlements. Hingley (1989, 3) notes that 'attention has been focused on the rich and wealthy sites and little effort is directed to the study of the poor'. Thus a true picture of rural Romano-British society cannot presently be provided. Sites occupied by the rural 'poor' are comparatively poorly understood (Hingley 1991, 76, 3), and this group probably includes Little Paxton. Non-villa settlements may be characterised by the comparatively low level of material culture, although these sites do not necessarily form a homogenous class - considerable variation in form and in material culture may be represented. Non-villa settlements could be those rural sites which failed to become 'Romanised', or they may be the farmsteads of subservient kin or the servants of a nearby villa (Hingley 1989, 100). The Area A Research Design (Leach 1992) suggested that this settlement could have formed part of a large villa-type estate, a hypothesis which deserves consideration. As the most common type of rural settlement type, the non-villa settlement is an important subject for research (Hingley 1989, 23).

The presence of villas within a region often attests to intensive agricultural production, converted to surplus wealth through the development of patterns of exchange and consumption. In contrast, the absence of villas could suggest economic stagnation, with little creation of new wealth due to physical factors such as soil type, climate, topography, and the physical distance from market centres. Alternatively, it is possible that the wealth created belonged to a central authority, such as the villa estates within the Fenland and also possibly in the Upper Thames Valley. Despite the association between Fenland and Imperial Estate, some goods of high value have been found there, suggesting that wealth could be expressed not just in the construction of villas, but also in objects of status, such as pottery or jewellery.

Variations in material culture associated with differences in social and economic factors may be apparent upon closer study of the Little Paxton data. No coins or items of personal jewellery were recovered from the Area E/F settlement, while the Area A settlement contained a number of brooches and also coins and imported wares such as locally-marketed samian which were notable by their absence from the other settlement area. The animal bone assemblage from Area A also contains the bones of a number of wild animals, suggesting hunting could have been undertaken, often an elite or ritual activity. The finds and the zoological and botanical data from these settlements should be inter-compared, and comparison should also be attempted between this evidence and the evidence for the Iron Age settlements at Little Paxton. This suggested difference in material wealth requires explanation, although Hingley (1989, 160) notes that differences in material wealth could also be caused by social constraints.

- Settlement layouts

Non-villa sites include large compounds such as Catsgore in Somerset (Leech 1982), where a total of twelve farms was identified. It is possible that the Area E/F settlement at Little Paxton contained two or more contemporary farms, but possibly not many more than that number. One possibility is that these farms were occupied by different members of an extended family group. The existence of two or more roughly contemporary farms would provide the opportunity to compare the individual site layouts and the evidence for standard of living and trading contacts. The size and layout of the 'ladder' enclosure in Area A could also have formed a compound, containing zones set aside for occupation and livestock enclosures.

Although traces of buildings were sparse, it is possible that dwellings at Little Paxton were integrated into the farm compounds, (e.g. in the northwestern corner of the 'ladder' enclosure). Hingley (1991, 77) notes that little information is available concerning the layout of farm compounds which might indicate the number of family units (e.g. as at Catsgore). Few sites have been excavated on a large-enough scale sufficient to identify differences in function and status of the inhabitants of different parts of the settlement, with the possible exception of Claydon Pike (Miles 1984) and Little Paxton.

In the absence of significant structures (presumed scoured-out by ploughing), analysis of spatial patterning in the distribution of pottery, animal bone and the charred plant remains will contribute towards an understanding of the division of space in the enclosures between domestic space and animal enclosures, the functional use of space within domestic settlements, and the relationship between stock management features and the 'domestic' settlement areas.

2) Economy

The scale of the excavation, and associated salvage recording at Little Paxton, has enabled the examination of the immediate surroundings of the settlement areas, including evidence for field and other boundaries. English Heritage (1991, 38) has highlighted the academic importance of identifying patterns of field and estate boundaries. Analysis of the environmental evidence, in particular the pollen and insect remains, suggests that animal husbandry predominated during the Romano-British period.

- Animal husbandry

Because of the calcareous nature of the gravel subsoils, animal bone was generally well-preserved. The large and potentially-informative assemblages of animal bone recovered will contribute to the understanding of the nature of animal husbandry. Useful comparisons can also be made between the composition of the Iron Age and Romano-British animal bone assemblages, to determine changes in husbandry practices and evidence for animal 'improvement'. Analysis of the animal bone will consider the evidence for the decline in the quantity of sheep and a commensurate increase in the number of cattle recorded nationally within the Romano-British period (Murphy 1997, Millett 1990, 202).

The layouts of the Area E/F rectilinear enclosures and also of the Area A 'ladder' enclosure both suggest an association with stock management. Analysis of the spatial distribution of the animal bone will provide an understanding of waste disposal practices and stock management. The evidence from Little Paxton can be usefully compared with other excavated stock management systems, principally Orton Hall Farm, Cambridgeshire (Mackreth 1996). The scale of the Little Paxton animal enclosures could suggest livestock rearing for sale at local markets, probably including Godmanchester and Sandy.

Another aspect of the Romano-British animal bone assemblages is the absence of wild animals from the Area E/F settlement, and their presence, albeit in small quantities, in the Area A assemblage. Millett (1990, 203) has noted an increasing reliance upon the hunting of wild animals during the Romano-British period, which was often an elite activity.

- Trading contacts/relationship with market centres/tribal affinities

One explanation for the establishment of the Area A settlement in the 2nd century may be provided by the intensification of agricultural practices in the early-Roman

period. Little Paxton lies between the territory of the Trinovantes which has a number of local market centres, and the territory of the Iceni and Catuvellauni, where local centres are generally more scarce (Hingley 1989, 137). The nearest market centre would probably be located at Godmanchester, to the north. Analysis of the pottery, principally the imported and traded wares, will provide the principal source of information concerning the trading sources and cultural affinities of the two Romano-British settlements, from which this evidence should be inter-compared. The composition of the Little Paxton pottery assemblage, dating from the 1st-4th century, should be compared in detail with pottery from recent excavations in Godmanchester (The Parks, London Road) which has a similar broad chronological time-span.

Another aspect should be considered is the possible relationship between the apparent settlement 'shift' between Area E/F and Area A, the evolving nature of the Area A settlement, and the evidence advanced by Millett (1990, 133) and others for a decline in the administrative centres in the 3rd century, and for renewed economic vitality in the countryside. The changes in settlement form at Little Paxton, particularly in the later Romano-British period, could be related to other factors. Three such factors are cited by Millett (1990. 203), comprising the increased sizes of the landholdings, the results of currency changes, and, thirdly, the effects of changes in the nature and the demands of the taxation system.

- Other farming activity

Preliminary analysis of the pollen has identified cultivated species, including poppy, cereals, possible hemp and possibly cabbage. The recovery of waterlogged remains of charred cornfield weeds suggests on-site processing. Some of the annual weeds recovered also suggest open, cultivated ground in the vicinity. This evidence for arable, in addition to pastoral farming, requires further research. This evidence needs to be considered against the broader trend for increased diversification in the rural economy in the later Roman period (Millett 1990, 205).

3) Relationship with the natural environment

The Romano-British (and prehistoric) settlements at Little Paxton were sited to take advantage of topographically-favourable locations. This is particularly exemplified by the Area A 'ladder' enclosure which was positioned astride a gravel ridge.

One of the key excavation aims concerns the interaction between changes in settlement and economy from the Neolithic to the end of the Romano-British period and the development of the valley floor environment. The proximity of the Area A and Area E/F settlements to the River Great Ouse, and in particular their close proximity to palaeochannels, suggests that these settlements could have been very susceptible to, and be good indicators of, changes in water-level. A detailed, computer-based terrain model will be prepared, with mapping of the stream-courses and adjoining alluvial zones. Study of the beetle remains will provide important evidence concerning the water conditions in the ditches. These changes could be usefully related to changes recorded elsewhere in other river valley environments (e.g.

Robinson 1992; French *et al.* 1992). On a wider scale, the river valley environment can also be compared with evidence from the fen edge (*ibid*).

Changes in water-level, in particular a rise in water level, may not always have had a detrimental effect. In addition to drainage, the enclosure ditches may have performed a secondary function providing drinking water for animals. For example, in Area A the southern 'ladder' ditches may have channelled water into the possible animal drinking trough (F209).

Robinson (1992) has suggested that the Romano-British period along the River Great Ouse Valley was characterised by a rising water-table and alluviation, although he notes that relatively few detailed studies have been undertaken along this river valley. The evidence for the abandonment of the Area E/F settlement at the end of Phase 4 (early 2nd-century), and the establishment of the Area A settlement, principally the 'ladder' enclosure, could suggest a settlement 'migration', possibly related to rising water-levels, although the evidence from preliminary analysis is necessarily inconclusive. Similarly, the abandonment of the 'ladder' enclosure, and its replacement by Enclosure C in the 4th century, located to the east of the stream-course, could also reflect rising water levels.

Pottery will provide the principal dating evidence for the deposition of water-lain sediments in the ditch fills at Little Paxton. The quality and preservation of the insect, pollen and waterlogged plant remains from the datable ditch deposits will contribute towards the reconstruction of the flora and fauna of the nearby Romano-British landscape, and highlight the evidence for changes. This evidence will be complemented by studies of the vertebrate bone assemblages and the excavated evidence for the layout of the animal pens. Fulford (1990, 29) has noted that little information is available concerning the spread and composition of Roman woodland, which was an important component of the landscape.

Analysis of the other charred and waterlogged seed remains and pollen present, including weeds, could help towards an understanding of the soil conditions.

4) Ritual and religion

The Romano-British landscape at Little Paxton and its immediate surrounds may not have been wholly functional in character. The Romano-British temple complex (Alexander n. d.) located to the east of Area E/F (not illustrated) may be dated to the 3rd-4th centuries. This dating suggests it could have been contemporary with the Area A settlement and it is not impossible that the two sites were associated. The possible association between the temple and the contemporary enclosures, also recorded at Maxey (Pryor *et al.* 1985, Taylor 1997), requires further study. The location of this temple adjoining an earlier prehistoric henge (Evans 1997) enclosing a tree stump, suggests an element of continuity in the ritual landscape, a theme which will need to be pursued also in research concerning the prehistoric landscape context of Little Paxton. Going (1997) emphasises the importance of the study of Romano-British temple sites with possible Iron Age antecedents. Blagg (1986) and Hingley (1996) have considered the place of Roman temples within the Romano-British rural

landscape. Blagg (1986) has noted that a number of temple sites, such as those at Gosbecks, Frilford and Nettleton Scrub became cult centres, benefiting from passing trade. In contrast the Little Paxton temple was placed away from major Roman roads (Edwardson *et al.* 1966), and may have been only of local importance. Millett (1990, 196) suggests that the proliferation of temples in the later Romano-British period could represent no more than a display of wealth by the elite.

Further evidence of the nature of the use of the Romano-British enclosures, including evidence for possible ritual activity, would be provided by spatial analysis of the finds, principally pottery and animal bone, to elucidate any evidence for structured deposition.

5) Comparison with evidence from the elsewhere in the River Great Ouse Valley, and in other river valley environments

English Heritage (1991, 51) have emphasised the importance of understanding the regional setting of a 'site'. Fulford (1990, 25) has noted that the 'understanding of the landscape of Roman Britain is still very much biased towards settlements and lines of communication and we are still very ignorant of the landscape in between'. The scale of the Little Paxton investigations, including the large-scale investigation of settlement areas and of associated field systems by a combination of excavation and salvage recording, will hopefully address this criticism.

On a local scale, the results of the Little Paxton excavations should be compared with other nearby excavated Romano-British sites, e.g. Margetts Farm (Tempvs Reparatvm 1992), Little Paxton (Greenfield 1969), and Eynesbury (Rudd and Daines 1968), as well as with the Little Paxton temple site (Alexander n.d.).

Comparable Romano-British rural settlement complexes are generally understudied, both nationally and regionally. However, a number of such rural complexes have been recently investigated in Cambridgeshire (e.g. Orton Hall Farm, Mackreth 1996; Elton, French 1994; Paston, Peterborough, Ellis *et al* forthcoming). Comparison should also be made between the evidence from Little Paxton, and that from other Romano-British rural settlements investigated as part of multi-phase landscape-based investigations, such as Edix Hill, Barrington (Malim 1998), and in the Welland Valley, (Simpson *et al.* 1993; Pryor *et al.* 1985), the roadside settlements excavated along the line of the A1(M) near Peterborough (Ellis *et al.* 1998), and, more widely, Dragonby, Lincolnshire (May 1996). Useful comparisons could also be made between Little Paxton and the Fenland areas (Potter 1989) where little evidence of pre-Romano-British settlement is recorded by an extensive survey programme (Hall 1987 and 1992).

The importance of characterising regionally-based patterns of settlement has been emphasised by Hingley (1989, 121). This could be achieved by comparison between the data for Cambridgeshire, Bedfordshire (Simco 1984), Northamptonshire (e.g. Jones 1975; Williams 1975, Taylor and Dix 1985; Jackson and Dix 1986 and Neal 1989) and in other adjoining counties (e.g. Essex, Williamson 1984). A broader comparison should also be attempted with similar rural settlements excavated over the

remainder of the country, for example in the Thames Valley (Miles 1984; Benson and Miles 1974)

Detailed consideration of the Late Iron Age-Romano-British transition will be provided by the post-excavation assessment concerned with the Iron Age settlements at Little Paxton.

5.2: Aims

In the final report all aspects of the Romano-British economy and the settlement evidence will be considered in relation to the comparative evidence provided by the prehistoric settlements, as appropriate in order to highlight these changes from the Neolithic to the late-Roman period, and to suggest a relationship with the development of the river valley environment.

In addition, since the field programme is currently on-going, and is not due to be completed until 2002, a further opportunity exists at the culmination of the entire Little Paxton fieldwork programme to provide a further landscape-based overview of the evidence.

The overall research aims for the Romano-British (and prehistoric periods) periods can be re-focused, as follows:

1.0: Settlement and society
1.1: Chronology, evidence for establishment and abandonment.
1.2: Settlement in its contemporary context.
1.3: Layout of 'domestic' settlements/ the functional use of space/ finds distributions.
1.4: Relationship of settlements with stock management/ arable farming.

2.0: Economy
2.1: Trading contacts/relationship with market centres/standard of living and status.
2.2: Animal husbandry.
2.3: Arable farming.

3.0: Relationship with natural environment
3.1: The natural environment - micro-geography of area/ alluviation/ water level/ soil fertility.
3.2: Water management, ditches and irrigation.
3.3: Surrounding flora and faunas.
3.4: Relationship between changes in environment and changes in settlement pattern and economy.

4.0: Ritual and religion
4.1: Possible functional and chronological relationship between settlements and Romano-British temple.
4.2: Evidence for spatial patterning in finds distribution.

5.0: Comparison with evidence from other river valley environments.

6.0: Critical appraisal of project methodology

The Phase 1-2 investigations at Little Paxton comprise a sufficiently large and varied archaeological dataset to permit a critical appraisal of project methodology to be proposed, based on analysis of data from the prehistoric and Romano-British settlement complexes.

6.0: PUBLICATION SYNOPSIS

It is proposed to publish the report describing the two Romano-British settlements at Little Paxton as part of a volume also including description and interpretation of the prehistoric settlement evidence, followed by an overall synthesis of the prehistoric and Romano-British settlement evidence. The report will be published in the British Archaeological Reports Series, British Series. British Archaeological Reports have agreed to publish the report in principle.

PREHISTORIC AND ROMANO-BRITISH SETTLEMENTS IN THE RIVER GREAT OUSE VALLEY: ARCHAEOLOGICAL EXCAVATIONS 1992-1998 AT LITTLE PAXTON QUARRY, DIDDINGTON, CAMBRIDGESHIRE.

The suggested layout of the volume (including contributions concerning the prehistoric period) is given below:

Part 1: Introduction to the excavations
Part 2: Early prehistoric period (Neolithic-Bronze Age)
Part 3: Later prehistoric settlement (Iron Age)
Part 4: Romano-British settlements
Part 5: Landscape overview: general discussion and conclusion

The provisional layout of **Part 4** is listed below:

Text

Summary of the stratigraphic and finds evidence (2000 words#)
Introduction (5000 words#)
Results and interpretation (20000 words, 4 tables)
Finds
Coins (250 words, 1 table)
Iron objects (1000 words)
Lead object (250 words)
Copper alloy objects (1000 words)
Stone objects (1000 words)
Worked bone objects (500 words)
Glass objects (250 words)

Synthetic view of small finds (750 words)
Romano-British pottery (10000 words, 5 tables)
(including mortaria, samian, and amphorae)
Zoological and botanical evidence
Animal bone (5000 words, 4 tables)
Insect remains (4000 words, 2 tables)
Charred plant remains (3000 words, 2 tables)
Pollen and waterlogged seeds (4000 words, 3 tables)
Discussion and conclusion (15000#)

TOTAL 51000 words, excluding elements marked #
21 Tables.

In addition, there will be a review of the Romano-British settlement evidence in the overall landscape overview (Part 5).

KEY: # = also includes prehistoric settlements

Figures

1 Site location
2 Drift and solid geology
3 Areas investigated
4 Areas investigated: the archaeological strategy
(Figures 1-5 will be in Part 1)

5 Phase 4, Area E/F simplified plan of all features
6 Phase 4, Area E/F, detailed plans
7 Phase 4, Area E/F, sections
8 Phases 4-6, Area A, simplified plan of all features
9 Phase 4, Area A, plan and sections
10 Phase 5, Area A, plan
11 Phase 5, Area A, sections
12 Phase 6, Area A, plan
13 Phase 6, Area A, sections

14 Phase 4, finds distributions, Area A
15 Phase 5, finds distributions, Area A
16 Phase 6, finds distributions, Area A
17 Iron, lead and copper alloy objects
18 Stone objects
19 Worked bone objects
20 Glass objects
21-4 Pottery

25 Romano-British settlement patterns (in Part 5)

7.0: TASK LIST AND PROGRAMME

A summary of the proposed programme is provided by Table 18.

TABLE 18: TASK LIST AND PROGRAMME
(Assumes project commissioned no later than December 1999)

Task	*Description*	*Initials*	*No. of days*
STAGE A, PRELIMINARY ANALYSIS. Performance indicator, completion May 2000			
1	Site archive: update phasing	AEJ	2
2	Data entry: database	EM	2.5
3	Site archive: Harris matrix	AEJ	2
4	Penmap data input/database	LD	4
5	Preparation detailed site plans: drafts	AEJ	2
6	Prepare information pack for specialists	LB	1
7	Coarse pottery, preparation of fabric & form series	JE	5
8	Coins, analysis	ASEC	-
9	Iron, lead and copper finds, analysis	LB	1.5
10	Stone objects, analysis	LB	1
11	Worked bone objects, analysis	LB	1
12	Glass objects, analysis	LB	0.5
13	Coarse pottery, recording	JE	21
		PA	18
14	Coarse pottery, data entry	PA	7
15	Coarse pottery, checking data etc.	JE	5
16	Mortaria, analysis	LR	0.5
17	Samian, analysis	SW	0.5
18	Animal bone, analysis	AB	7
19	Insect remains, analysis	DS	-
20	Charred plant remains, analysis	CP	-
21	Pollen and waterlogged plant remains, analysis	JG	-
22	Revision of phasing/ update Penmap plans	AEJ	2
23	Database revision of phasing	EM	1

STAGE B: REPORTING AND ILLUSTRATION. Performance indicator, completion September 2000

25	Library research	AEJ	2
26	Iron, lead and copper finds analysis	LB	2
		DM	-
27	Stone objects, reporting	LB	1
28	Worked bone, reporting	LB	1
29	Glass object, reporting	LB	0.5
30	Coarse pottery, library research	JE	2
31	Coarse pottery, reporting	JE	20
32	Mortaria, reporting	LR	0.5
33	Samian, reporting	SW	0.5
34	Animal bone, reporting	AB	-
35	Insect remains, reporting	DS	-
36	Charred plant remains, reporting	CP	-
37	Pollen and waterlogged plant remains, reporting	JG	-
38	Update database	EM	3
39	Finds Officer, liaison	LB	2.5
40	Preparation of finds illustrations	ND	14
41	Checking of pottery illustrations	JE	2
42	Checking small finds illus.	LB	0.5
43	Preparation of draft phase plans and sections	AEJ	5
44	Preparation of site description and interpretation	AEJ	3
45	Other site illus./ spatial distribution data	LD	5
46	Preparing site illustrations	ND	6
47	Preparation and integration of finds spatial analysis	LD	2
48	Preparation of discussion	AEJ	4
49	Integrating pottery reports	JE	1

STAGE C, COMPLETION OF FIRST DRAFT/DEPOSITION OF ARCHIVE. Performance indicator January 2001

50	Finds Officer, liaison with specialists	LB	0.5
51	General edit	AEJ	3
52	Internal edit of first draft	IF	2
53	Corrections to text	AEJ	1
54	Corrections to illustrations	ND	2
55	Corrections to computer data	LD	1
56	Submission for external refereeing	AEJ	0.5
57	Final revisions to text	IF	1
		AEJ	0.5
58	Preparation of camera ready copy	EH	4
59	Preparation and dispatch of archive	AS	3

KEY:

AEJ = A. Jones, Project Manager/Author

AS = Archive Supervisor
IF = I. Ferris, Editor.
JE = J. Evans, Roman pottery
LR = L. Rollo, mortaria specialist
DM = D. Mackreth, brooches
CP = Charred plant remains specialist
SC =S. Esmonde Cleary, coins
LD =L. Dingwall, computing
AB = Animal bone specialist
JG = J. Greig, pollen and waterlogged plant remains

EH = E. Hooper, page-proof preparation
LB = L. Bevan, Finds Officer/ small finds
PA = Pottery Assistant
SW =S. Willis, samian
RI = R. Ixer, petrology
DS = D. Smith, insect remains
ND = N. Dodds, illustrator
EM =E. Macey, finds database

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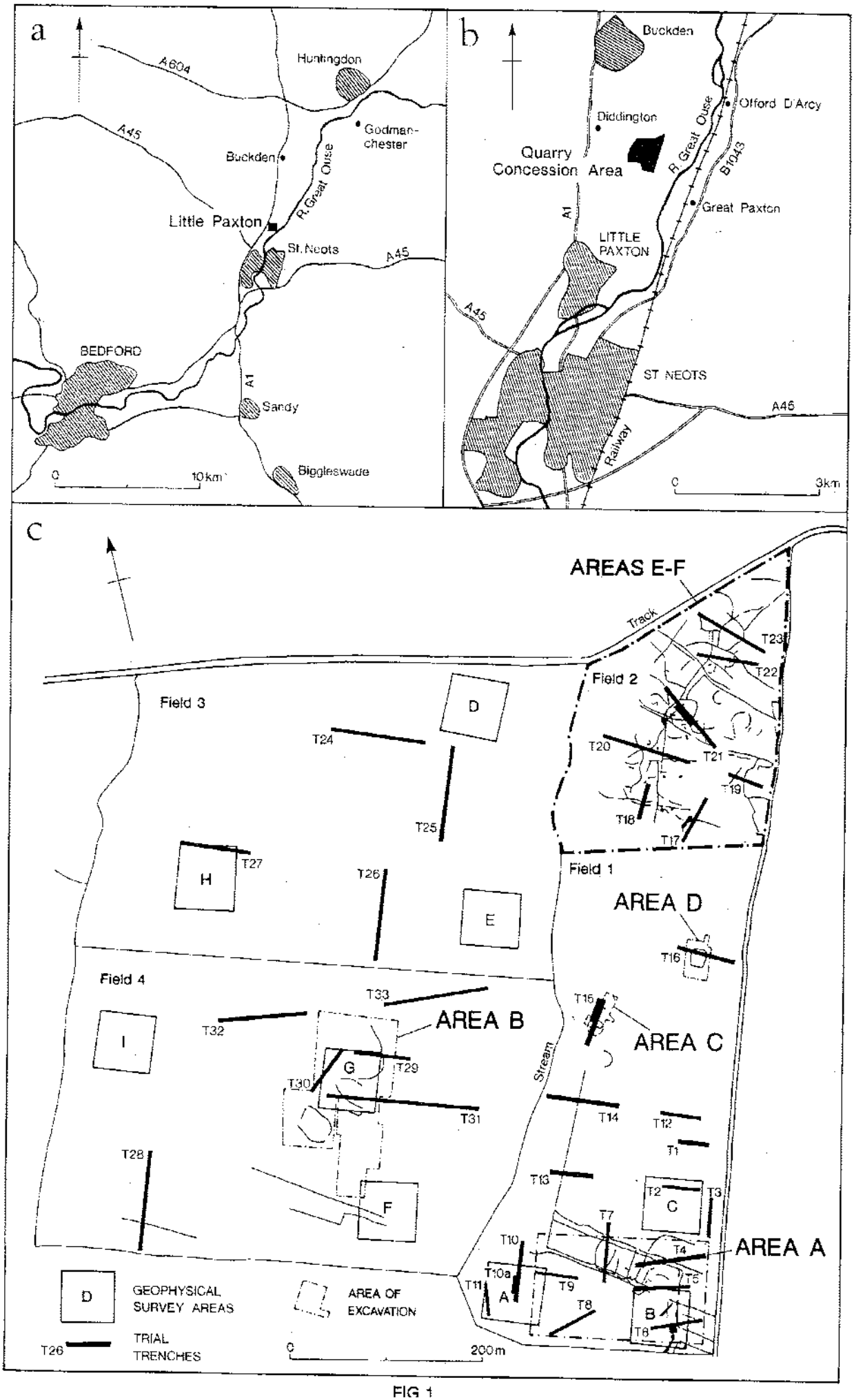
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A604
Huntingdon
A45
Godman-
chester
Buckden
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Little Paxton
St.Neots
A45
BEDFORD
A1
Sandy
Biggleswade
0
10km
b
Buckden
Diddington
Offord D'Arcy
Quarry
Concession Area
R.Great Ouse
B1043
A1
Great Paxton
LITTLE
PAXTON
A45
ST NEOTS
A46
Railway
0
3km
C
AREAS E-F
Track
Field 2
T23
T22
Field 3
D
T24
T20
T21
T19
T25
T18
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Field 1
E
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Field 4
T33
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AREA B
AREA C
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I
G
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Stream
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T31
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AREA A
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GEOPHYSICAL
SURVEY AREAS
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EXCAVATION
T26
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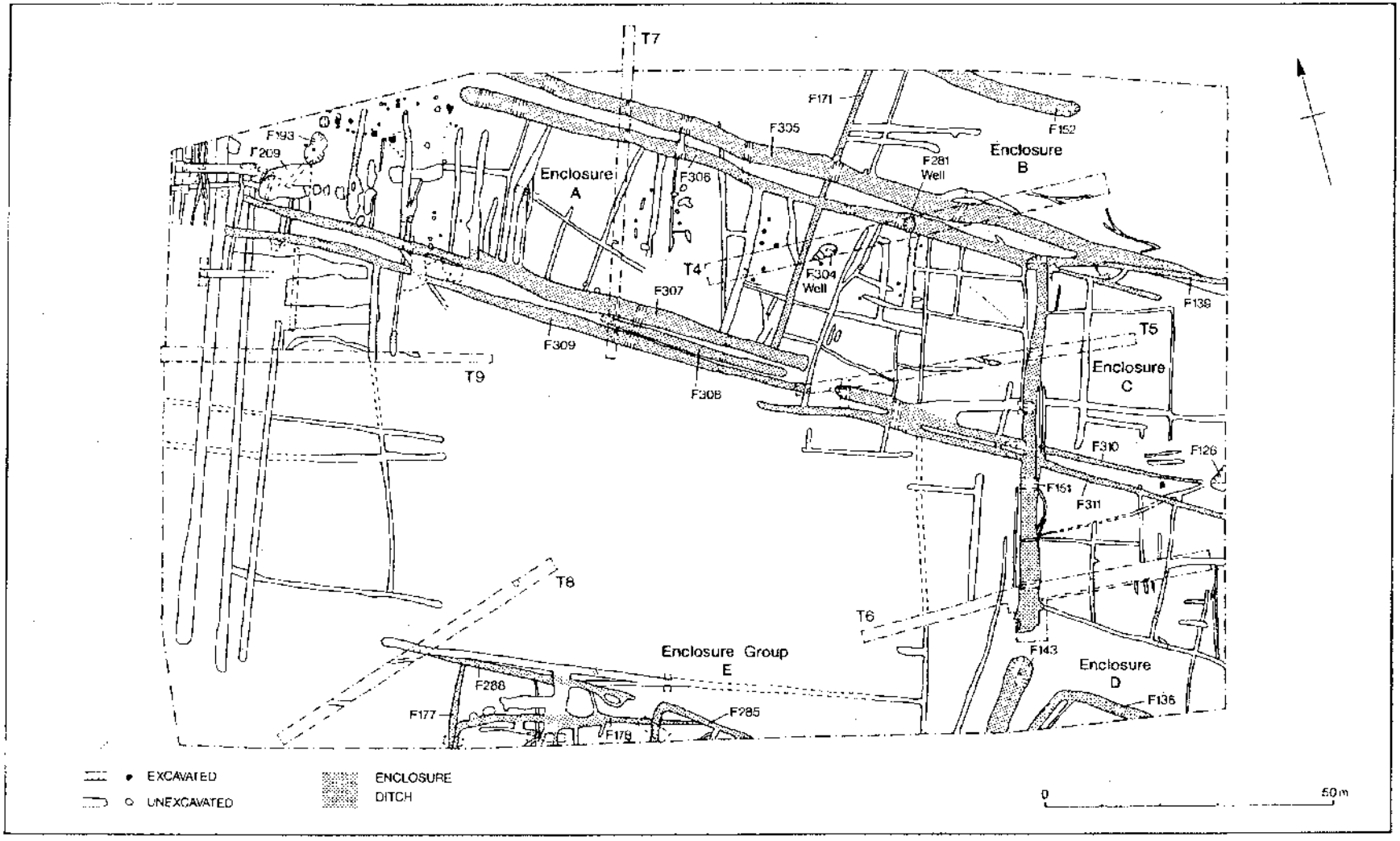
FIG 1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F307
F138
T5
F309
T9
Enclosure C
F308
F310
F126
F151
F311
T8
T6
Enclosure Group E
F143
Enclosure D
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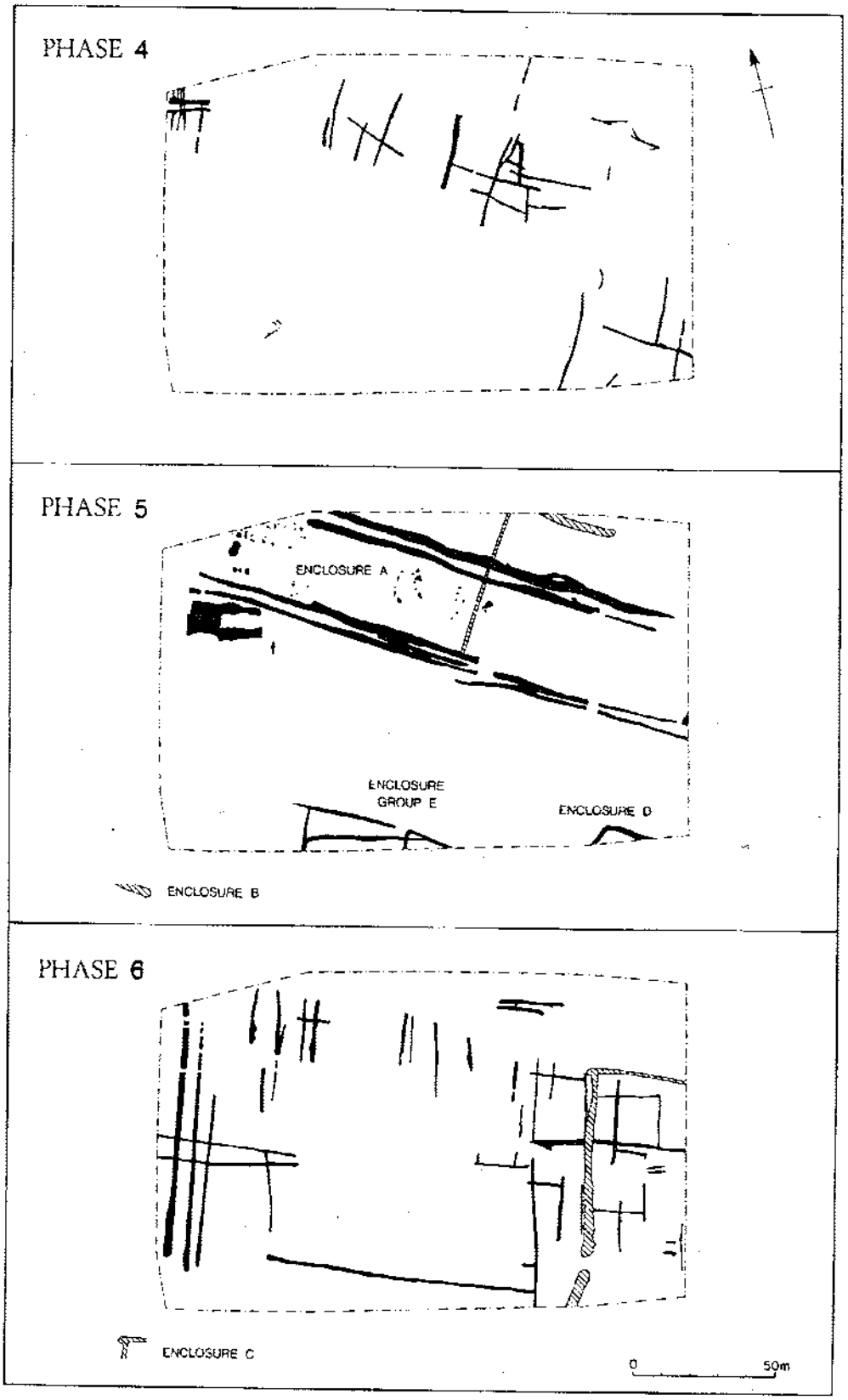
F136
F177
F285
F178
EXCAVATED
UNEXCAVATED
ENCLOSURE
DITCH
0
50m

Fig.2


PHASE 4
PHASE 5
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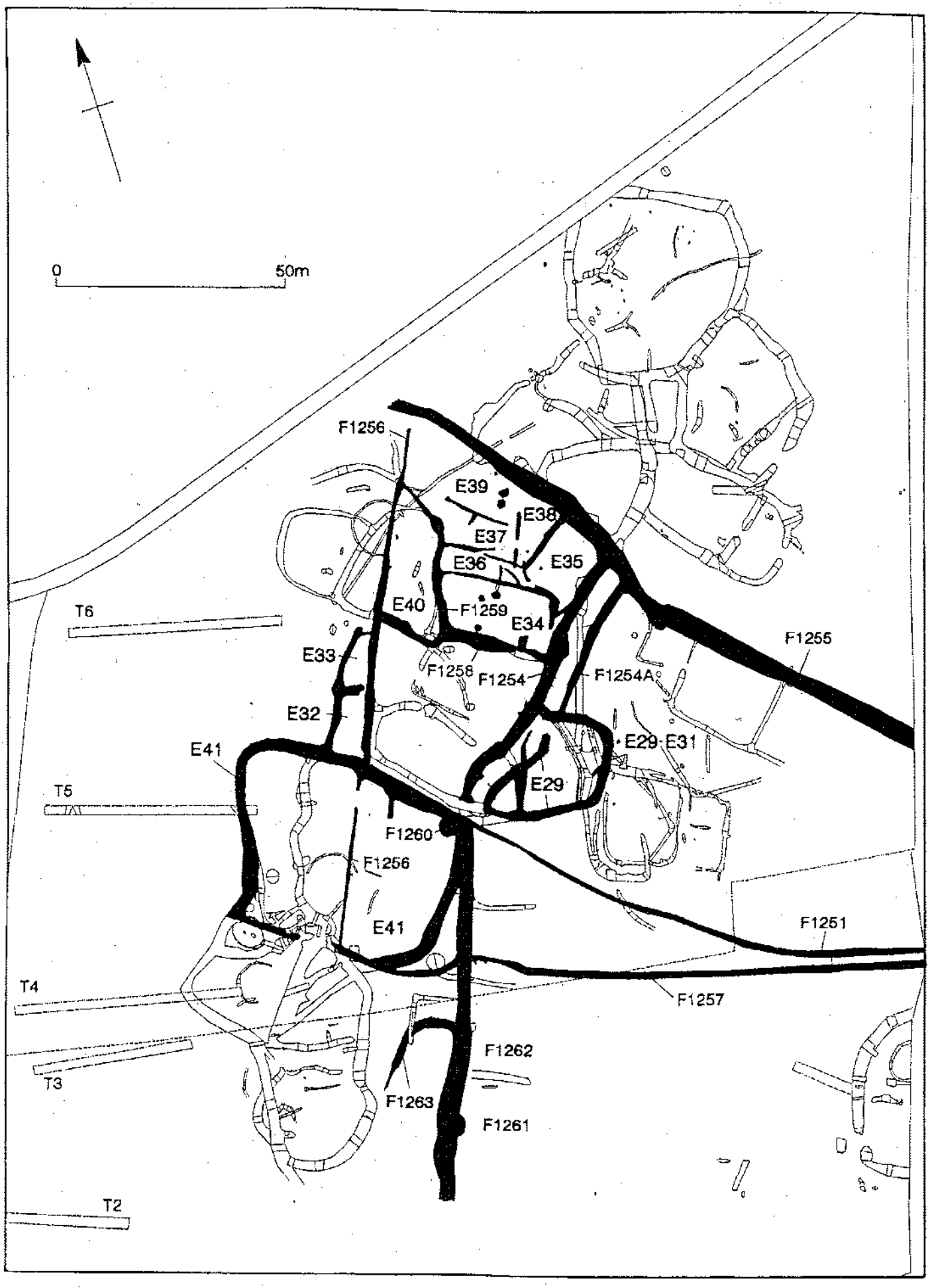
ENCLOSURE GROUP E
ENCLOSURE D
ENCLOSURE B
PHASE 6
ENCLOSURE C
0
50m

Fig.3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T6
T5
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T2

Fig.4