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Archaeological Field Unit

BARHOLM + STOWE

**Prehistoric landscape at Stowe Farm, ~~West Deeping~~, Lincolnshire.
Phase 3b**

S.N. Kemp

2000

Cambridgeshire County Council

Report No. N16

Commissioned by Lafarge Redlands Aggregates Ltd.

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Archaeology Section

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**Prehistoric landscape at Stowe Farm, West Deeping, Lincolnshire.
Phase 3b**

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May 2000

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SUMMARY

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Archaeological excavations at the aggregate quarry of Stowe Farm, ~~West Deeping~~, Lincolnshire in September 1999 were undertaken by the Archaeological Field Unit of Cambridgeshire County Council (CCC AFU) on behalf of Lafarge Redland Aggregates Ltd. The site is located at TF 100111 and consists of a 17.5 ha. extraction area where the gravel is systematically excavated and the land restored to agricultural use. This document reports on the excavations undertaken in advance of phase 3B extraction and follows archaeological investigations which began in 1994. Phase 3B (TF 09991096) was located to the west of Phase 3A and south of Phase 2B and consists of an area of 1.1 ha.

The Archaeological Field Unit was commissioned to undertake an enhanced recording brief within the area of Phase 3B. This work consisted of a pre-excitation site survey on the basis of which groups of archaeological features were prioritised for excavation. Five groups of features were identified which included late Bronze Age or early Iron Age buildings and activity areas as well as the continuation of the prehistoric north-south boundary.

The 1999 excavations showed a similar pattern of activity as that seen in previous years. Two roundhouses were identified. A series of small pits and a small fenced enclosure was associated with one of the roundhouses. Sampling of the north-south prehistoric boundary continued and showed that the initial stage of ditch digging consisted of an interrupted ditch system which may account for the sinuous course of the boundary which can be seen through the entirety of the extraction area.

Excavations undertaken within the extraction area since 1994 seem to suggest a model of a generally open Neolithic, Bronze and Iron Age landscape with a major north-south landscape division and a scatter of buildings related to agricultural activity. The major north-south boundary may have divided the landscape for agricultural purposes and possibly controlled livestock access through to 'community stockyards' of the type identified within Fengate, Peterborough. The agricultural landscape contained isolated roundhouses and fenced enclosures of Bronze Age and Iron Age date. The spatial and environmental evidence suggests dispersed activity areas where the small amounts of charred grain and animal bone suggest very low intensity agricultural production was undertaken and pastoralism may have dominated. These activity areas seem to have continued as landscape focus points into the early Iron Age. A number of ritual sites including ring ditches have also been identified which indicates that some of the major components of the Bronze Age landscape have been identified within the extraction area.

During the Iron Age the landscape shows greater structure and organisation with pit- and post-defined enclosures developing into the major enclosed fields with associated buildings identified in the Phase 1 excavation area. By the later Iron Age and early Roman period these prehistoric ditch systems appear to have become obsolete. Roman trackways and boundary ditches were then cut across the earlier fields. Sometime between the late Roman and later narrow ditches were excavated on an alignment which was to be continued within the medieval field system by which time arable cultivation dominated pastoralism. Although the field patterns changed at enclosure arable cultivation continued as the prime land use until quarrying began.

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**Archaeological Excavations within the Prehistoric Landscapes of Stowe Farm,
West Deeping, Lincolnshire. TF 09991096. Phase 3B.**
BARHOLM + STOWE

1 INTRODUCTION

BARHOLM + STOWE Archaeological excavations at the Lafarge Redland Aggregates quarry of Stowe Farm, ~~West Deeping~~, Lincolnshire in 1999 were undertaken by the Archaeological Field Unit of Cambridgeshire County Council (CCC AFU). Excavations were commissioned by Lafarge Redland Aggregates Limited and were carried out according to a specification drawn up by their archaeological consultant Dr C.E. Howlett of Phoenix Consulting (Howlett 1995). Field investigations were monitored by J. Bonner on behalf of Lincolnshire County Council.

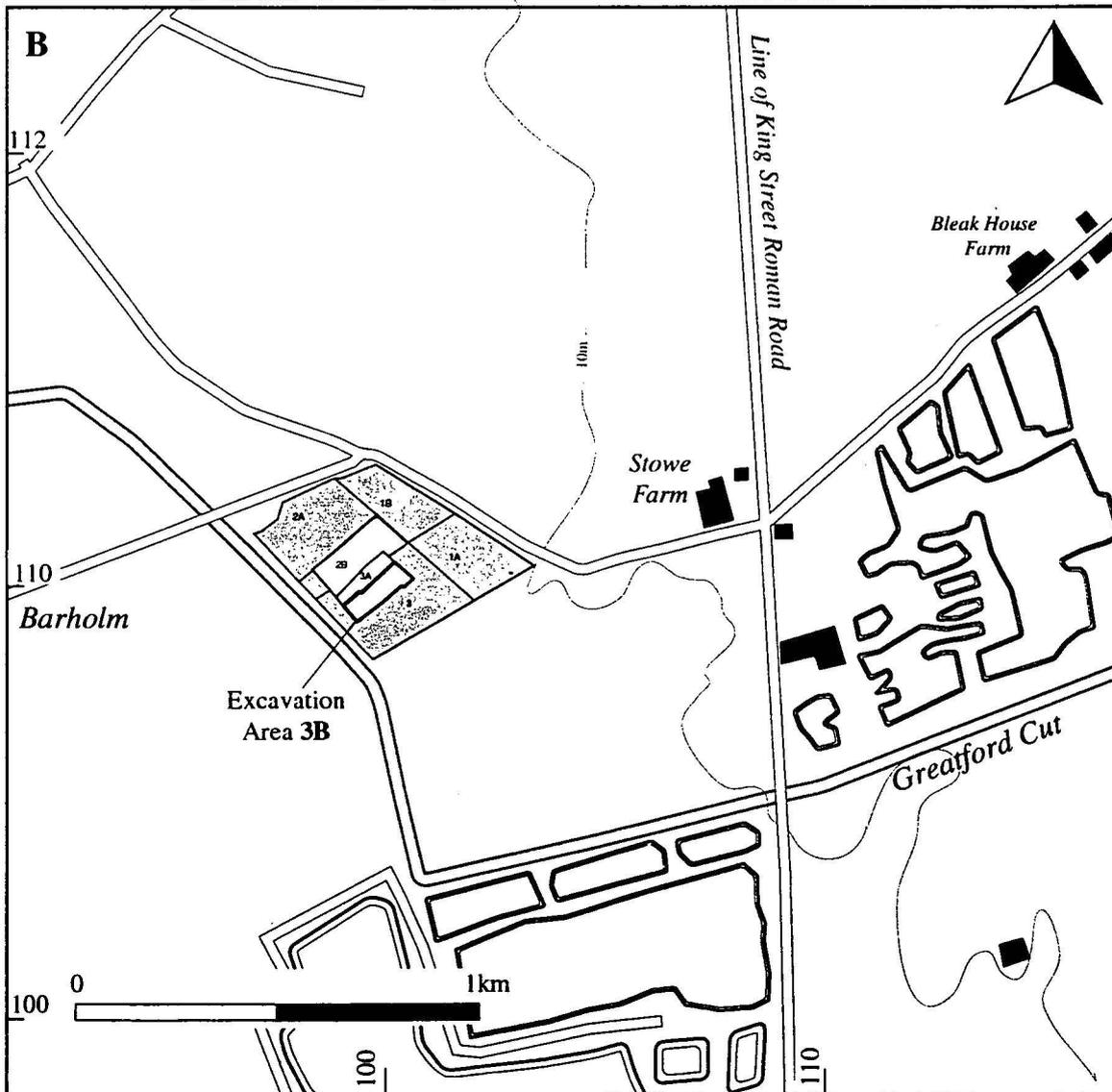
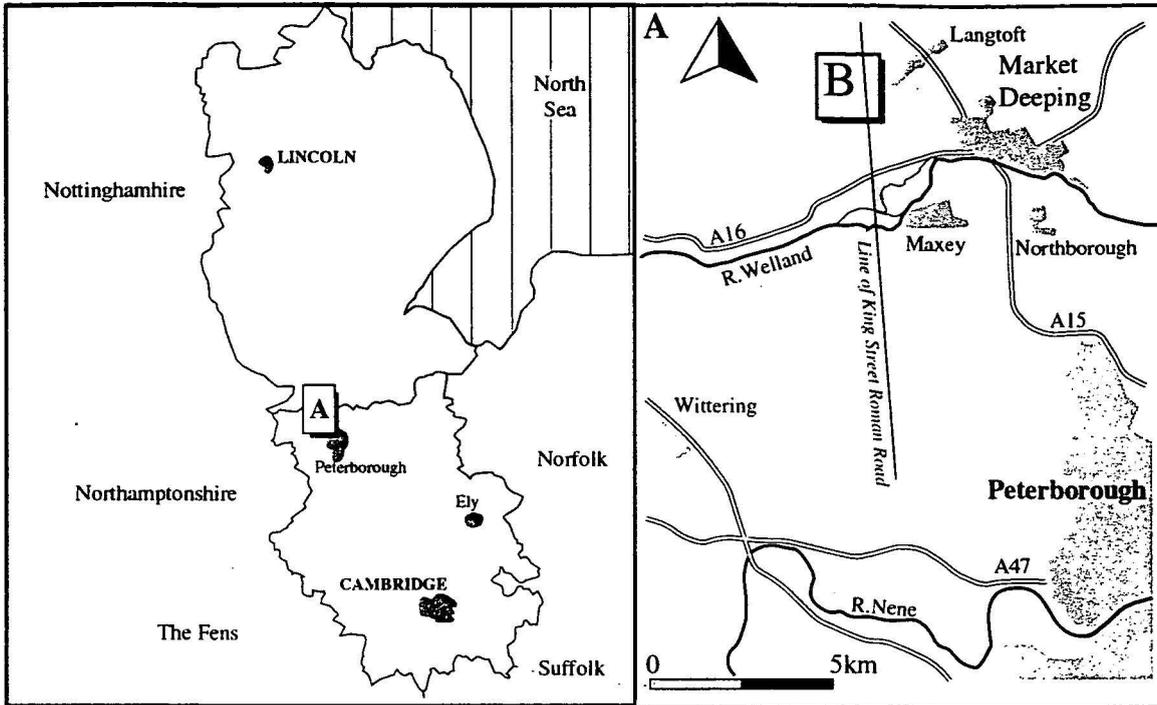
The site lies to the north-west of the existing Redland Aggregates West Deeping quarry and offices, to the south and west of the Barholm and Greatford Roads and immediately to the west of the Greatford Cut. To the east of the site lies King Street, a former Roman Road. The site consists of a 17.5 ha extension to the existing quarry (Figure 1). Five phases of gravel extraction have taken place across this area since 1995 with archaeological work preceding each phase of extraction.

Prior to 1997 archaeological work at Stowe Farm, which included a desk-top assessment, non-intrusive survey, field evaluation and excavation, was undertaken by Tempus Reparatum. In 1995 Tempus Reparatum undertook excavations in advance of phases 1A and 1B extraction, this was followed in 1996 by excavations in advance of phase 2A extraction. In 1997 the CCC AFU was commissioned to undertake an enhanced recording brief within phase 2B. This report outlines the results of the 1999 archaeological work undertaken by the CCC AFU.

Phase 3B (TF 09991096) was located to the west of phase 1A and south of phase 3A and consisted of an area of 1.25 ha (Figure 1). This phase of work entailed the excavation of selected archaeological features and environmental sampling which would continue the recovery of the prehistoric archaeology at Stowe Farm and enhance the results of the detailed excavations undertaken by Tempus Reparatum. The main aim was to recover the plan-form of the archaeological remains within the extraction area, with sample excavation taking place only in special circumstances. The scope of recent fieldwork was outlined in an amendment to the original specification drawn up by Dr Howlett (Howlett 1998).

2 GEOLOGY AND TOPOGRAPHY

The site lies to the north of the Welland River and immediately to the west of the Greatford Cut. The surrounding area lies at about 10m OD. Within the excavation area lie terrace gravels which are in the process of extraction. The topsoil is used to



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Figure 1 Site location

reinstate previous extraction areas as low level arable farmland. Prior to the extraction the land-use for this area was arable whilst pasture lies on the eastern side of the Greatford Cut.

3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Archaeological investigations into the development of the local landscape at Stowe Farm began in 1989 with a review of the archaeological potential of the proposed quarry (Howlett 1994). Since then non-intrusive and intrusive methods of investigation have been used to evaluate the area. In 1995 the first phase of excavations were undertaken and followed, in 1996 with phase 2A, 2B in 1997 and 3A in 1998.

The terrace gravels of the Lower Welland valley are rich in archaeological remains and particularly of those dating to the prehistoric period as shown by excavations at Bainton, Barnack and Maxey (Pryor et al 1985, Reynolds 1992). Sites of prehistoric date known to surround the extraction area and include ring-ditches and barrows visible as cropmarks. One of these ring ditches lay within the extraction area and was excavated by Tempus Reparatum. Iron Age and Roman remains include an agricultural settlement at Greatford (Scheduled Ancient Monument 327), and SAM 160 a Roman settlement which lies about 300m to the north-west of the extraction area. Cropmarks extend throughout the parishes of Barholm and Greatford indicating the archaeological importance of this area and its wider importance as part of the prehistoric and historic landscapes of the Welland Valley (RCHM 1960).

Surveys specific to the extraction area include an aerial photographic assessment which identified the presence of two ring ditches, several large pits and a number of ditches within the site. Fieldwalking failed to locate any dense artefact scatters with only 1 artefact occurring every 9 ha; this evidence was used to suggest the absence of prehistoric settlement and therefore influenced the format of future archaeological work (Howlett 1994). The geophysical survey proved to be inconclusive due to the low magnetic variability. The cartographic survey was used to indicate that the area has been under continuous plough throughout the historic period (Howlett 1994). Further investigations by Tempus Reparatum suggested a period of tree cover during the Anglo-Saxon period which the excavator related to a great forest which lay between Peterborough and Stamford (Kiberd 1996a; 32).

Trial trenching was undertaken to verify the results of the non-intrusive survey techniques. A complex of prehistoric ditches and pits were identified. The evaluation highlighted the potential of the area and subsequently Tempus Reparatum designed a mitigation strategy to recover the archaeology. A complex multi-period site emerged from the 1995 excavations (Kiberd 1996a). The archaeology consisted of features which have been interpreted as houses, agricultural structures, animal pens and pits of Bronze Age and/or Iron Age date.

The evidence for intense prehistoric occupation continued into phase 2A with an increase in the number of pits and structural elements as opposed to boundary features seen in the phase 1. There was also an increase in animal bone and pottery which may be associated with domestic activities. Whilst pits and post-holes were present throughout the excavation areas Tempus Reparatum suggested that the apparent increase in structural elements to the north-east of the site indicated that the main settlement lay in this position. The report also suggests that the settlement evidence was concentrated in the west and the field systems lay in the east which results in a degree of confusion (Kiberd 1996, 21). Larger pits were found to contain waterlogged remains and have been interpreted as wells. They were dated to between 1600 and 1200 BC by radiocarbon dating of wood retrieved during the excavation (Kiberd 1996b).

Phase 2B (1997) was the first stage of work undertaken by the Archaeological Field Unit of Cambridgeshire County Council (CCC AFU). Although this phase of works identified a continuation of the archaeology encountered in previous excavations the quantity and intensity of remains was much reduced. The excavations recognised the remnants of an agricultural system of a probable Bronze Age date which included three discrete post structures. The presence of a number of other post-holes within the 2B area makes it possible that other structures existed in a less intact state within the area and were therefore not so readily defined and investigated. The north-south boundary was initiated in the late Neolithic or early Bronze Age based on the Tempus Reparatum chronology. The 1997 excavations showed that this boundary ditch was apparently finally infilled during the late Iron Age or early Roman period. Stratigraphic evidence from this phase of works suggests that the ditch in its final form was unlikely to predate the late Bronze although it may have reinforced earlier boundaries. A large number of undated features were identified and as no period has yet been characterised by a particular type of feature or fill they can at the present only be thought of as components of a more general prehistoric landscape.

Phase 3A lay immediately to the north of the present piece of work. This excavation saw a continuation of the field patterns seen in Phase 2B. Occupation evidence was sparse with only a single concentration of post-holes likely to represent an agricultural building. The north-south boundary continued from Phase 2B investigation area and became a series of either 3 or 4 parallel ditches which maintained the same alignment. The southern most end of one of the Celtic enclosures defined by Tempus Reparatum was recovered and partially excavated within the excavation area. Early Iron Age sherds of pottery and a single radio-carbon date of 1660-1405 cal BC (Beta-125856) confirming a Bronze Age component to the site.

4 AIMS AND OBJECTIVES

The CCC AFU was commissioned to undertake an enhanced recording programme within the Phase 3B extraction area. Phase 3B is a sub area of Phase 3 as defined in the original Specification (Howlett 1995). The area to be stripped and recorded was

defined by Lafarge Redland based on their proposed extraction requirements for the following year.

Both the 1997 works (phase 2B) and the present project were carried out in accordance with a specification drawn up by Dr Chris Howlett of Tempus Reparatum (Howlett 1995). For the work carried out in 1998, however, this specification was amended, following discussions between Dr Howlett and the Lincolnshire County Council curatorial authority. In 1998, the work was to be primarily a surveying and watching-brief exercise designed to recover the plan-form of the archaeological remains surviving within the extraction area. Sample excavation was to take place only in special circumstances. These amendments took into account of the fact that by 1998, a considerable proportion of the extraction area had already been stripped, planned and excavated, and several examples of every type of archaeological feature occurring in the quarry had already been sample excavated. The changes were embodied in an amendment to the original specification drawn up by Dr Howlett and agreed with the Lincolnshire County Council curatorial authority (Howlett 1998)

The overall aim of the project has been to reconstruct the components of the prehistoric and historic landscapes surviving within the extraction area. The ultimate aim is for the recorded landscape components to be integrated with settlement evidence, field systems and ceremonial monuments and built into the broader landscape models of the Welland Valley. The intention has been that this landscape research would only progress once the excavation phase had been completed. The aim of this report is therefore to describe the archaeology and provide a provisional interpretation of the remains recovered during the Phase 3B excavations.

5 METHODOLOGY

The overburden which consisted of topsoil and subsoil was removed to a level where the archaeology was clearly visible. On all occasions this proved to be at the junction between the topsoil/subsoil and the terrace gravels. Machining was undertaken with a 360° tracked excavator equipped with a toothless ditching bucket which were supplied by Lafarge Redland Aggregates. Spoil was removed from the excavation area using a pair of six-wheel 20 tonne dumper trucks.

The area available for analysis during phase 3B was 1.25 ha. All stripping of the overburden was supervised in order to maintain a suitable depth of machining, whilst monitoring for the presence of fragile archaeological remains.

All potential archaeological features were then planned using a total station. Site plans were generated on computer at our Fulbourn offices and verified on-site. These plans were used to inform the discussion on relevant areas to focus the archaeological recording.

Hand excavation of features was undertaken within the excavation area. Segments between 1m and 2m in length were hand dug through ditches, whilst pits and post-

holes were half sectioned and where appropriate completely excavated. A sample of exposed features were excavated in order to characterise features in terms of form, fills, and date. Where structural remains were identified these and associated features were targeted for a higher level of excavation in order to define the nature of the archaeology and recover additional dating evidence.

Following the construction of the site survey, areas of archaeological interest were defined. The discrimination criteria were based on spatial associations, or, in the case of ditch boundaries, whether segments of the feature had previously been excavated and whether dating or environmental material were likely to be recovered. For the 1999 excavations six areas of interest were defined where detailed archaeological work was to be undertaken. These areas were:

i. Iron Age Enclosure. Segments were excavated through the ditches and at the T-junction in order assess whether this represents a single-phase of use. See **G16**.

ii. Prehistoric roundhouse. Additional cleaning to clarify the structure of the building with hand excavation within activity areas in and around the building i.e. pits and hearths. See **G17**.

iii. Ash and possible slag deposit. Excavation was required to retrieve artefacts for dating, slag and possible environmental evidence from this deposit. This was a particularly unusual deposit and feature for this site. See **Natural**.

iv. Prehistoric building on the northeastern side of the excavation area. Additional cleaning to clarify the structure of the building with hand excavation within activity areas in and around the building i.e. pits and hearths. See **Natural**.

v. North-south Bronze Age boundary. This continued as in previous years. Excavation was to focus on the terminals in order to:

- a. define the nature of the boundary i.e. fenced or ditched
- b. test for the presence of gate structures
- c. to retrieve additional dating evidence from each of the interruptions in the ditch system.

See **G18** and **G19**.

vi. Complex of buildings. Additional cleaning was undertaken to distinguish individual buildings. Excavation was managed in the same way as other buildings with work focused on understanding the activities which were undertaken within and around these structures. See **G20**.

Field records were made for excavated and unexcavated features of probable archaeological origin. Where features were excavated 1:10 sections were drawn in order to record the depositional sequence. A photographic record of all excavated archaeological features was also made.

Environmental samples were recovered from excavated features during excavation following advice from Dr James Rackham of the Environmental Archaeology Consultancy. The decision to sample was markedly affected by the surviving depth of

the feature, fill type and the presumed date of the feature. Sampling therefore tended to concentrate on the deeper prehistoric pits where environmental remains were most likely to survive. The results from this work are detailed in Appendix A.

Finds analysis was undertaken by members of the CCC AFU with the expectation that full analysis would occur at the post-excavation stage following the completion of all of the fieldwork.

Due to the requirements of the archaeological specification, which was to recover, record and report on the archaeology in phase 3B prior to the formulation of a comprehensive post-excavation strategy, this report is an interim statement. As an interim report the earlier archives have not been accessed to resolve the problem of the integration of the site results; the specification (para. 6.2.1) indicates that this will occur at a later date.

6 RESULTS

The archaeology is presented in the areas of interest defined as a result of the survey and included areas of buildings and boundary ditches.

About 20% per cent of the potential archaeological features identified in the stripped area were excavated; these features included ditches, pits and post-holes. Additional features were excavated but are not described below as they were of natural origin.

On account of the limited dating evidence retrieved from the excavated features it is difficult to continue exactly with the methodology of spatial analysis and phasing employed in previous reports by Tempus Reparatum. Instead the reports prepared by the Archaeological Field Unit describe spatially restricted groups where they exist i.e. sets of post-holes. Artefactual, dating and environmental evidence will be summarised within the text section of the appropriate feature.

Because of the limits of the dating evidence subsequent work may prove that the spatial groupings highlighted for discussion are not the contemporary features which they are presently assumed to be. In addition, the archaeological evidence for certain periods may prove to be more dispersed than at others because of differences in the way that the landscape was utilised and the structure of settlement and activity zones. Because of the different forms in which occupation and activity areas can be reflected in the archaeological record, compounded by our existing lack of temporal control at this site, landscape groups cannot solely be based on spatial association. As a result, temporal phasing of the archaeological remains will remain at a very broad level. It is hoped that further analysis, following the completion of all archaeological excavations within the extraction zone, will target areas which require a refinement of the phasing in order fully to understand the complexity of the site.

The archaeological remains and natural features consist of:

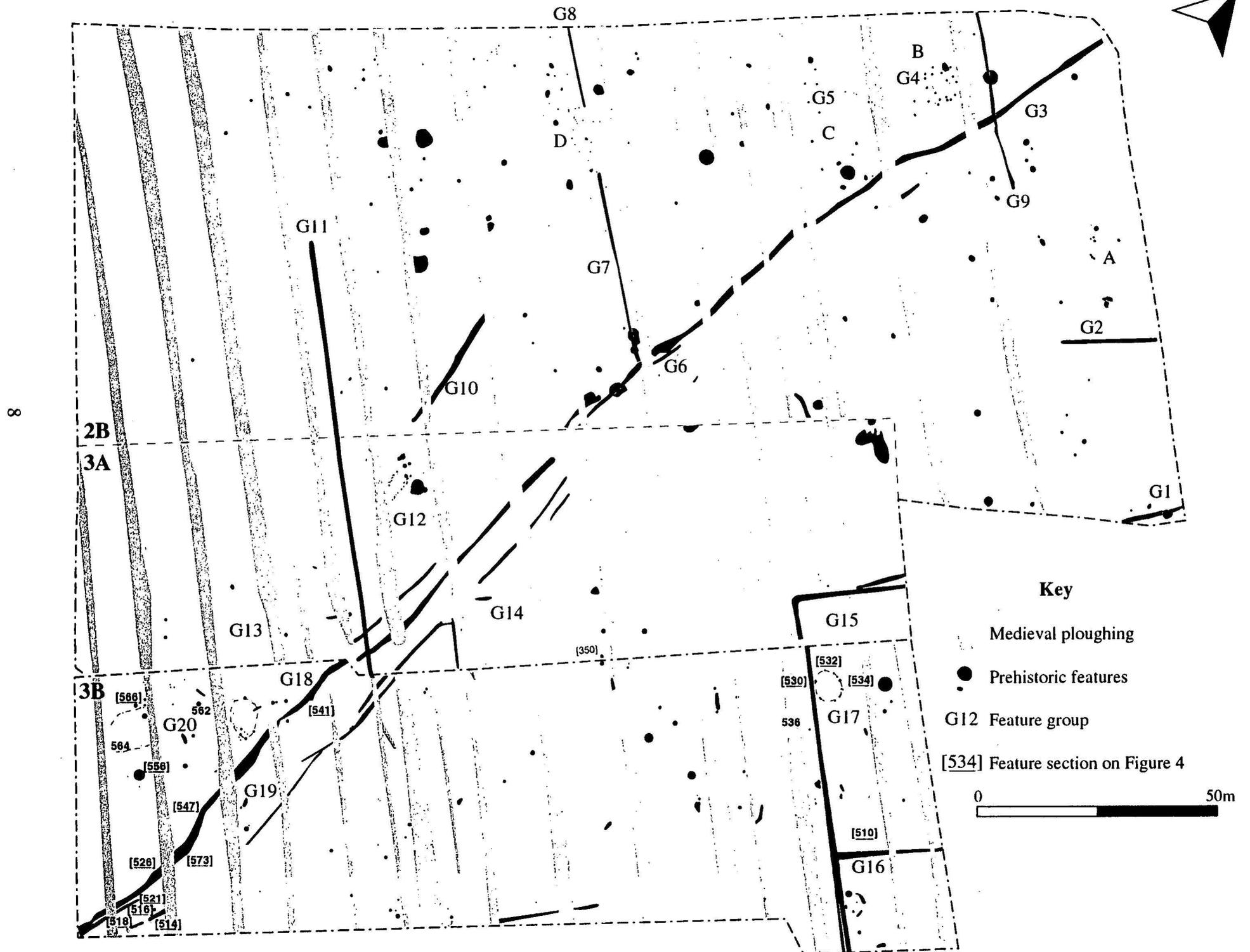


Figure 2 Plan of Area 2B, 3A and 3b

Natural

In the main the natural features could be distinguished on the basis of their morphology and a higher sand component within their fills. This method was not fool-proof as these natural features were very variable. Many of the features tentatively identified as components of a post alignment were shown during the course of the excavation to be natural. Sediment descriptions were made of all features which had the possibility of being archaeological during the course of the excavation. The initial field observations and judgements have been used to separate the archaeological from the natural features, although it is possible, given the similarity between the infill sediments, that some of the natural features have been introduced into the archaeological record. It is unlikely that archaeological features have been misinterpreted as natural as the archaeological features are commonly regular in form.

Just as the archaeological features are generally found in discrete groups within the excavation area, natural features also tended to have a similar association, particularly where they were associated with tree root activity. This can both aid and confuse the picture when due to the shallow condition of many of the features they cannot be categorically described as archaeological.

Natural features within the excavation area consisted of tree root activity and periglacial features such as ice wedges and frost heave structures. No tree throw structures were observed and although there was plenty of evidence for tree root activity all of these features appear to predate the archaeology. There was no evidence within phase 3B for the extensive medieval forest postulated by Tempus Reparatum (Kiberd 1996a).

A large number of the features interpreted as post-holes and small pits on the site are very shallow with a small diameter and may represent pockets of subsoil within the surface of the gravel; alternatively, where extensive excavation has not been undertaken to show otherwise, they may represent root disturbance. A degree of caution is therefore required when reading the archaeological record, particularly where it relates to unexcavated features. At the discretion of the author suspect features were removed from the report illustrations.

Areas iii and iv outlined above were shown by excavation to be of largely natural origin. These were areas:

iii. Ash and slag. Investigation by the Field Unit and inspection by James Rackham confirmed that this was a natural occurrence of iron rich gravels with iron concretions. Pockets of iron pan in small hollows resembling post-holes may indicate the presence of trees in the vicinity.

iv. Prehistoric building. Excavation suggested that many of these potential post-holes were root holes and natural freeze thaw features. On detailed inspection they were found to be of irregular form with sandy fills.

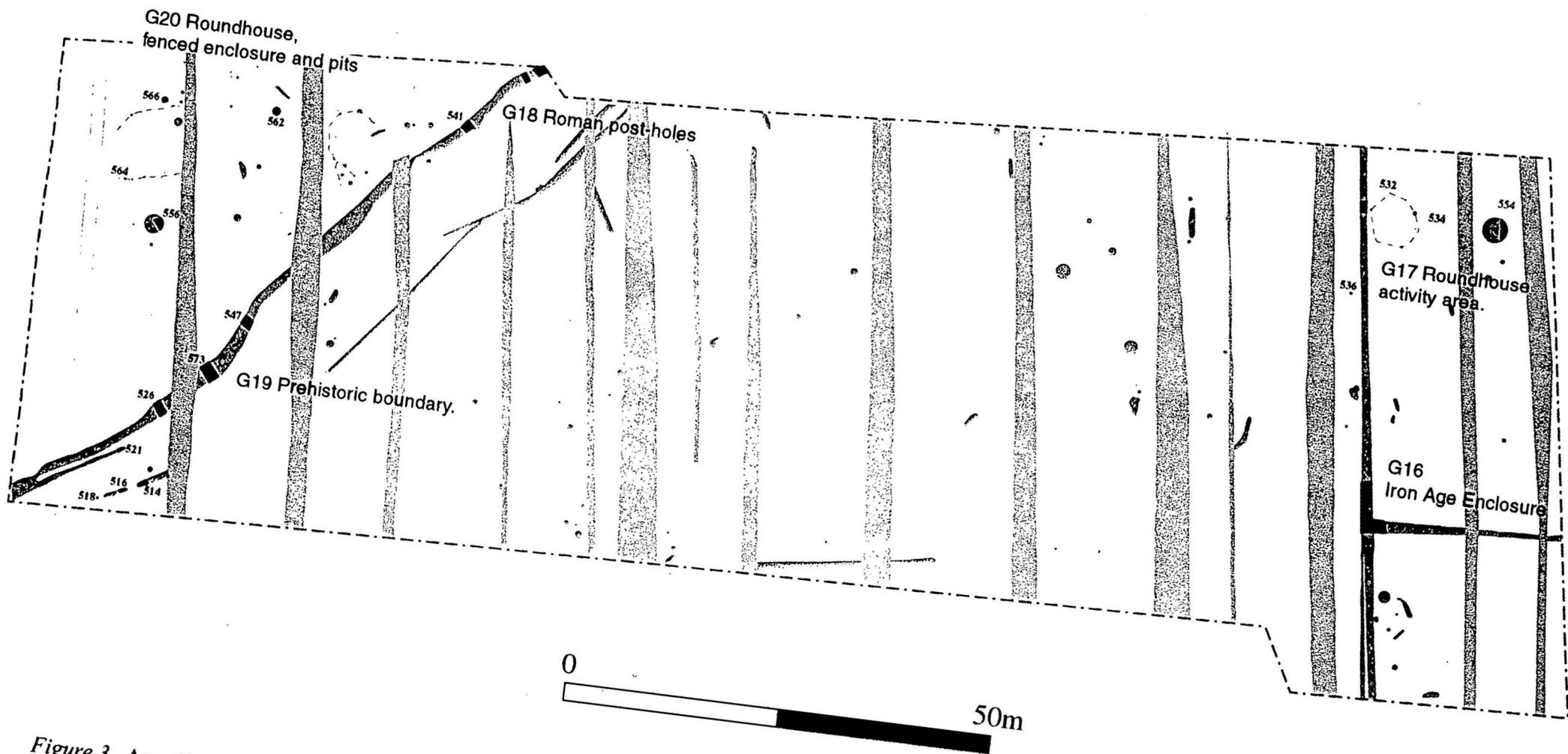


Figure 3. Area 3b showing excavated features and group reference numbers.

- Key**
-  Medieval ploughing
 -  excavated Prehistoric features
 - G12 Feature group
 - 556 Feature number

Archaeology

Group. Contexts and Description. (Fill No. and [Cut No.]

NB. Group numbers have been continued in the same series as was established by the 1997 excavations. Hence the group numbers in this report follow on from **G15** which was the last number used in the 1998 report (Kemp 1999).

G16 Iron Age enclosure 509, [510] and 531, [530]

Two sections were excavated through the boundary ditch of the Iron Age enclosure as dated by the excavation work undertaken by Tempus Reparatum. [510] was initially a 1.50 m long segment situated to expose an earlier feature; which was shown to be natural. The segment was extended eastwards to record the T-junction of the enclosure resulting in a segment of 6m in length. The ditch was 0.92m in width and 0.16m in depth and filled with yellow brown sandy silts containing up to 2% flint gravels. Excavation and surface cleaning at the T-junction confirmed that only one phase of enclosure ditch survived.

G17 Roundhouse and activity area. 533, [532], 535 [534], 537 [536], 542, 543, [544] pit

A roughly circular arrangement of post-holes was identified on the southern edge of the Iron Age enclosure (G17). Five potential post-holes were excavated three of which were shown to be archaeological features. The post-holes were between 0.30 and 0.34m in diameter with a maximum depth of 0.16m. They were filled with yellowish brown sandy, clayey silts with <2% flint gravels.

The evidence for a building is typically ephemeral with the shallowness of features presumably the result of ploughing on light soils. Prehistoric buildings at Stowe in the last couple of years have been commonly associated with a large pit. The presence of pit [544] close by is therefore probably the clearest support for the presence of a building here.

[544] lies 7m to the north of the **G17** round house. The pit was circular with a diameter of 1.50m and a depth of 0.29m. [544] was filled with yellow brown sandy clayey silts with between 5 and 25% flint gravels becoming more frequent towards the base of the feature.

Six sherds of late Bronze Age and early Iron Age date pottery were recovered from the fills of pit [544].

G18 Roman boundary markers ? 550, [551], 552, [553], 554, [555]

A gully and two post-holes cut into the fills of the north-south boundary ditch. The post-holes are 0.40 [551] and 0.29m [553] in diameter and up to 0.16m in depth. They were both filled with olive brown clayey silts with <10% flint gravels.

To the north of these post-holes, on the same alignment as the boundary ditch lies a shallow gully [555] of 1.20m in length. The gully was 0.06m in depth and 0.40m in width and also cuts into the fills of the north-south boundary (G19). The fill was very similar to the excavated material found in the post-holes being an olive brown clayey silt with <10% flint gravels.

G19 North-south prehistoric boundary

phase 1: 524, [523], 572, [573]

phase 2: 527,[526], 545, 546, [547], 538, 539, 540, 548, [541], 567, 568, 569, [570]

Three segments were excavated through the main north-south boundary ditch. The ditch took on a more acutely sinuous appearance than seen in previous years which resulted from the recutting of the original alignment (phase 1) by a single continuous ditch (phase 2).

The primary phase of the north-south boundary appears to consist of a series of unconnected ditches:

[523] was a segment of 1m in length, 0.91m in width and 0.20m in depth. The ditch was filled with a brown silty sand with >15% flint gravels. These ditch fills are cut by [526].

[573] was a segment of 1.45m in length, and 0.88m in width. Excavation was incomplete as the segment was opened to verify the extent of the feature. An area totalling 5m in length was cleaned to verify the excavation results. Cleaning showed that the ditch terminated about 3.5m to the north of the excavated segment.

The second phase was a generally wider ditch which joined together the earlier interrupted ditch system.

[526] was a segment of 1m in length, 1.22m in width and 0.31m in depth. The ditch was filled with clayey silty sands with over 15% flint gravels. [526] cuts through the fills of ditch [523].

[547] was a segment of 1.25m in length, 0.85m in width and 0.33m in depth. The ditch was filled with yellowish brown silty sands with flint gravels increasing towards the base.

[541] was a segment of 1.20m in length, 0.80m in width and 0.45m in depth. The ditch is filled with olive brown silty sands with occasional flint gravels and charcoal. [549] cuts through the fills of ditch [541]. A single sherd of probable Bronze Age pottery was recovered.

[570] was a segment of 1.42m in length, 1m in width and 0.35m in depth. The ditch is filled with sandy silts and silty sands with flint gravels increasing towards the base. [570] cuts the fills of [573].

To the east of the main north-south boundary lay a parallel ditch system sampled in 1998. Particular attention was paid to the southern area where this alignment consists of a series of gullies and post-holes.

515, [514]

The termination to a short linear gully potentially up to 6m in length with the northern end truncated by one of the medieval furrows. Where excavated the gully had a width of 0.82m and a depth of 0.28m. The gully was filled with brown silty sandy clays with <2% flint gravels.

517, [516]

The termination of a gully of 4m in length lying on the same orientation as [514]. The gully had a width of 0.45m and a depth of 0.19m and was filled with a brown silty clayey sand with <2% flint gravels.

520, 519, [518]

The post-hole [518] continues the alignment of gullies [514] and [516]. The post-hole is 0.58m in diameter, 0.21m in depth and was filled with brown silty, clayey sands, and silty sands.

G20 Roundhouse, fenced enclosure and pits. A possible farmstead.

560, 559, 558, 557, [556], 561, [562], 563, [564], [566]

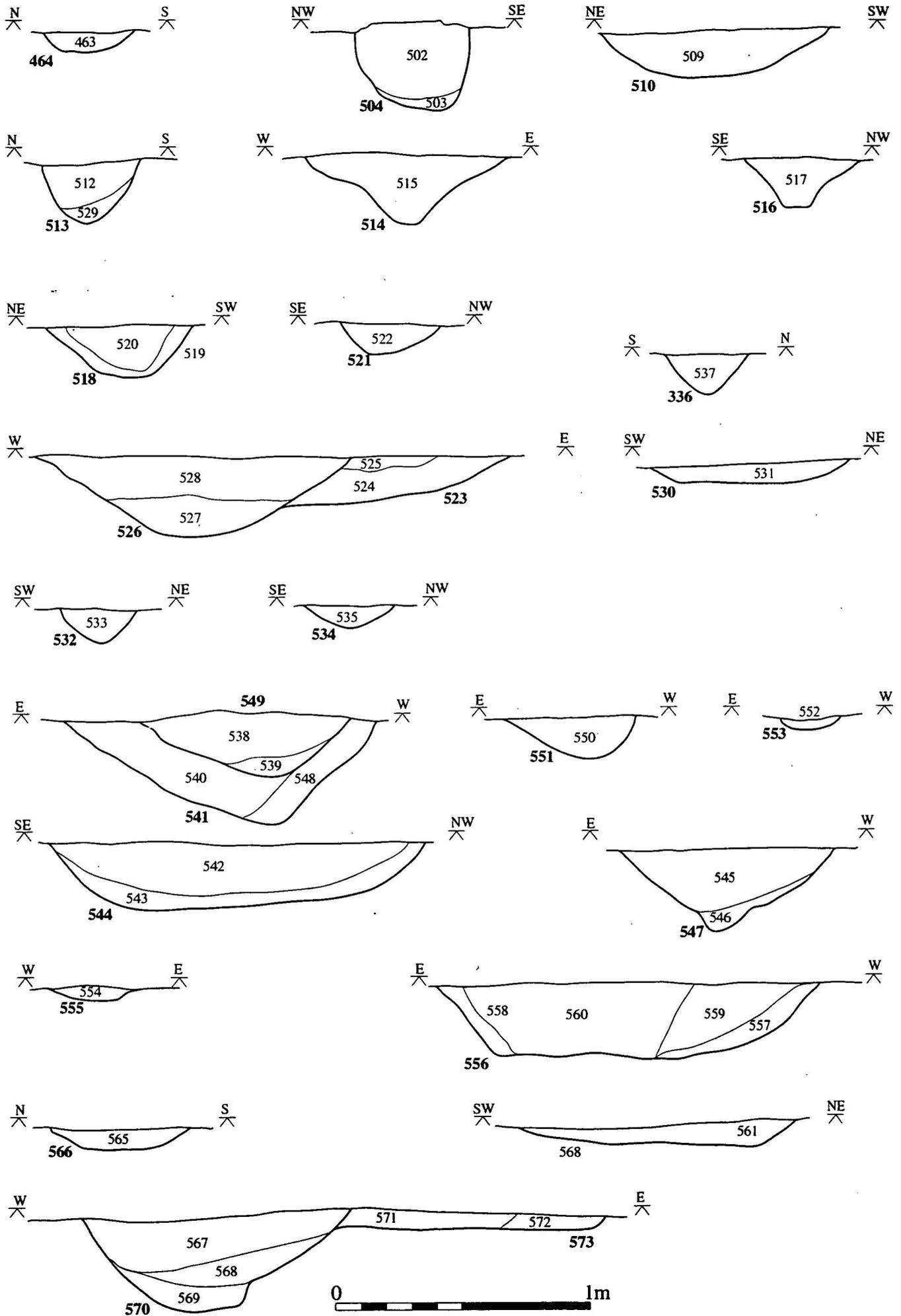
This was an area of scattered pits and post-holes on the southern side of the excavation area. Two groups were identifiable one close to the north-south boundary and adjacent to excavated segment [541] which was probably the incomplete remains of a small roundhouse of about 6m in diameter. The other was a pair of parallel fences represented by post-holes. In similarity to previous years these structural remains were found to be associated with a large pit.

[556] was a sub-circular pit of 2.1m by 1.5m in size, with a depth of 0.31m. The pit was filled with clayey silty sands with flint gravels which increase to about 15% in the basal deposits.

[562] was a circular pit of 1.06m in diameter and 0.07m in depth. The pit was filled with sandy silts with up to 5% flint gravels.

[564] was a post-hole of 0.32m in diameter and 0.09m in depth. The post-hole was filled with yellowish brown sandy clayey silts with <1% flint gravels.

[566] was a shallow pit or post-hole of 0.56m in diameter and 0.09m in depth. The feature was filled with yellowish brown sandy clayey silts with up to 1% flint gravels.



Ridge and Furrow.

A large number of shallow northwest-southeast orientated furrows crossed the area and cut through the earlier archaeology. These furrows were set at about 12m apart, however, in previous years traces of furrows at intervals of 7m apart were also identified.

The alignment of these earlier remnants of the medieval field system and similarly aligned ditches indicates an evolving agricultural landscape which respected earlier historic (Roman, Saxon and earlier Medieval) landscape structuration.

A single sherd of Roman pottery was recovered from one of the furrows.

Pottery

Nine sherds of pottery were recovered during these excavations. These were very abraded and have provisionally been dated to the Bronze Age, early Iron Age and Roman periods.

Environment

Fourteen samples were taken from ditch, pits and post-holes. The results of the environmental assessment (Appendix 1) suggest that human activities associated with crop processing and occupation were sparse in this area. The fills of ditch [549] and pits [544] and [556] offer the only evidence of nearby occupation, these occur at the north and south extremes of the excavation area.

7 DISCUSSION

The phase 3B excavations would appear to indicate a continuation of the types of Neolithic and Bronze Age activity which were widespread throughout the whole area of the Stowe Farm quarry extension. As in previous Phases of works the present excavations focused on the clearly identifiable prehistoric activity areas.

One of the earliest phases of archaeology identified would appear to be a series of small buildings and post-built enclosures (**G17** and **G20**) which are probably of a Bronze Age or early Iron Age date. The presence of Bronze Age and Iron Age pottery along with similarly dated wood found in pits adjacent to the roundhouses suggests that land-use patterns during these periods were similar.

The north-south boundary probably also belongs in part to this phase of activity. Tempus Reparatum excavations suggested a Bronze Age date for the ditch based on the stratigraphic position and the few finds recovered which included a barbed and tanged arrowhead (Kiberd 1996). The ditch continued as a visible landscape feature into the Roman period. It is probable that the Iron Age enclosure **G16** which was

shown to be a single entity was imposed onto this open prehistoric landscape. Environmental data and the scarcity of finds indicates that occupation was absent from the area.

As in previous years structural remains whether roundhouses or fenced enclosures were once again found in association with a single large pit i.e. **G17**. This is such a common occurrence that it can be used in the future to instantly identify areas requiring further investigation and may assist in understanding the phasing and structure of the landscape.

A number of sherds of Roman pottery and a possible thatch weight have been found within spreads of darker soils similar to sediments filling features [551], [553] and [555]. It now seems probable that these earlier finds came from features which were unclear at the time of the 1997 excavation. The north-south boundary presumably survived as an earthwork into the Roman period.

The environmental evidence from the boundary ditches suggests that when they were originally constructed and during their initial infill the ditches contained varying amounts of water. The Bronze Age and early Iron Age environment was probably of damp long grassland or a marshy habitat which potentially could have supported a pastoral economy.

By using aerial photographs Pryor has identified an extensive network of ditched enclosures throughout the West Deeping area (Pryor 1996). Based on the Fengate material where cropmarks and excavation have been used to suggest the presence of droveways and 'community stockyards'. Pryor has argued for an intensive Bronze Age sheep management strategy adjacent to the Fens. No clear evidence to justify this landscape interpretation has been identified during these excavations, however, the dispersed activity areas not associated with occupation or crop processing and the environmental evidence for grasslands in the immediate area suggests that these archaeological remains could feasibly fit into such a scenario.

If Pryor's spatial linkages and interpretations are correct further investigation of the Iron Age enclosures are warranted as these enclosures could feasibly be of an earlier date than presently thought. These enclosures could be the Bronze Age stockyards where herds were divided for breeding, culling and exchange and if so would have formed an important cultural and economic focus for Bronze Age populations. Subsequent alteration and adaptation by Iron Age populations may be suggestive of a degree of landscape and cultural continuity which may be reflected in the activities and artefacts preserved within these areas. Alternatively, where Pryor writes about the Bronze Age community stockyards at West Deeping should we suggest these are early Iron Age in date, based upon the results of these excavations.

8 CONCLUSION

Our view of the Stowe Farm quarry area at present would seem to suggest a generally open country during Neolithic, Bronze Age and early Iron Age times within which lay a major north-south landscape division. This boundary may have divided pasture areas and possibly defined access points to a 'community stockyard' of the type identified within Fengate, Peterborough. Phase 3B has shown this boundary to be more complex in design than in earlier phases, however, it still largely consists of a series of parallel boundaries with the occasional routeway providing access or egress between the two systems. Although at present largely undated, the post-structures are believed to date to this period and suggest dispersed activity areas where the small quantities of charred grain and animal bone indicate low intensity agricultural production and that pastoralism may have played an important part in the prehistoric economy of the area. The results could also be an indication of seasonal occupation and transhumance during the Neolithic, Bronze Age and early Iron Age periods.

During the Iron Age the landscape evidences a new structure and design with the pit and post defined enclosures developing into the major enclosed field and associated structure systems located in the phase 1 excavation area. These enclosures most closely resemble the stockyards hypothesised by Pryor. By the later Iron Age and early Roman period the earlier ditch systems appear to have become obsolete and the prehistoric north-south boundary had become partially infilled. The boundary must have still been visible as an earthwork during the Roman period as a series of small pits, post-holes and gullies were cut along the course of the boundary. The Iron Age system was replaced in the Roman period, boundary ditches and a trackway were cut across the earlier fields. Sometime in the late Roman, Saxon or early medieval periods narrow ditches were excavated on an alignment which was to be continued within the medieval field system. This landscape layout continued up to enclosure when although the field layout changed the domination of arable cultivation continued until quarrying began.

These additional investigations have helped us to refine the landscape phasing evidenced in earlier excavations on the site. A fuller analysis of the stratigraphic sequence and particularly the dating of the landscape is still required to substantiate many of the statements made and piece together the activity types representative of each phase of prehistoric occupation.

Our expectation for phase 3C is for the continuation of the earlier prehistoric activity areas. Additional structures and pitting are likely to be present on a similar level to those seen in recent years. It is hoped that identifiable activity areas will be found and an opportunity will occur to undertake further investigations within these enclosures.

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Stowe Farm, Lincolnshire - LINWDSF99 Environmental Archaeology Assessment

Introduction

The fieldwork for this project was carried out by the Cambridgeshire Archaeological Field Unit (CAFU) under the supervision of Steve Kemp. The Environmental Archaeology Consultancy was commissioned to carry out the environmental work in conjunction with the CAFU and a programme of sampling was instituted that concentrated upon the features at the north west end of the stripped area, with samples being taken from the fills of linear features where these were sectioned (see Fig. 00 - site plan) and post-holes and pits. A total of 14 samples were collected (Table 1). No animal bone was recovered by hand during the excavation and only burnt bone was recovered from the samples. This absence is almost certainly due to its failure to survive in these calcareous gravels probably due to severe leaching, but this contrasts somewhat with the survival of some snails in the deposits (see below). At the time of writing dating was not available for the samples.

Table 1: List of soil samples collected for environmental assessment

sample	context	cut	vol in l.	weight in kg.	description	date	sample type
1	502	504	18	25.5	post-hole?/possible natural feature	undated	flotation
2	512	513	9	13	post-hole?/possible natural feature	undated	flotation
3	542	544	28	34	basal fill of pit	?	flotation
4	538	549	20	26	fill of ditch	?	flotation
5	539	549	20	26	basal fill of ditch	?	flotation
6	540	541	20	25.5	fill of ditch	pot	flotation
7	550	551	10	12	post-hole fill	?	flotation
8	554	555	10	11.5	fill of shallow gully	?	flotation
9	562	561	20	23	fill of pit	?	flotation
10	563	564	4	5	post-hole fill	?	flotation
11	566	565	10	12	fill of pit	?	flotation
12	528	526	20	27	fill of ditch	?	flotation
13	524	523	19	26	fill of ditch	?	flotation
14	560	556	10	12	fill of pit	?	flotation

Methods

The soil samples were processed in the following manner. Sample volume and weight was measured prior to processing. The samples were washed in a 'Siraf' tank (Williams 1973) using a flotation sieve with a 0.5mm mesh and an internal wet-sieve of 1mm mesh for the residue. Both residue and float were dried, and the residue subsequently re-floated to ensure the efficient recovery of charred material. The dry volume of the combined 1st and 2nd flots was measured, and the volume and weight of the residue recorded. A total of 218 litres of soil was processed in this way.

The residue was sorted by eye, and environmental and archaeological finds picked out, noted on the assessment sheet and bagged independently. A magnet was run through each residue in order to recover magnetised material such as hammerstone and prill. The residue was then discarded. The float of each sample was studied under a low power binocular microscope. The presence of environmental finds (ie snails, charcoal, carbonised seeds, bones etc) was noted and their abundance and species diversity recorded on the assessment sheet. The float was then bagged. The float and finds from the sorted residue constitute the material archive of the samples.

The individual components of the samples were then preliminarily identified and the results are detailed below in Tables 2-4.

Results

The assessment results are summarised in Tables 2 and 3. The phasing utilised in this draft is preliminary only and may be expected to change with subsequent work and analysis.

Modern or recent plant rootlets, uncarbonised seeds (most commonly *Chenopodium* sp and *Polygonum* sp.) and shells of the burrowing snail *Cecilioides acicula* occur in all of the samples. These clearly could be, or are, of recent origin and indicate that there is some movement of material down through the soil. These elements have been ignored in the discussions below and indicate that one or two of the smaller finds may not be secure.

Table 2: Archaeological material from the flotation samples

samp.	context	vol. in l.	description	residue wt. kg	pot wt in g.	burnt flint	other
1	502	18	post-hole?/possible natural feature	13			
2	512	9	post-hole?/possible natural feature	6.5			
3	542	28	basal fill of pit	2.05	1	+	
4	538	20	fill of ditch	1.8			
5	539	20	basal fill of ditch	2.45	<1		hammerscale -1 flake
6	540	20	fill of ditch	5.85	4		
7	550	10	post-hole fill	1.6		+	
8	554	10	fill of shallow gully	0.95			
9	562	20	fill of pit	1.7			tufa?
10	563	4	post-hole fill	1.15			
11	566	10	fill of pit	3.3			
12	528	20	fill of ditch	1.35			
13	524	19	fill of ditch	8	<1		glass sherd-modern?
14	560	10	fill of pit	0.4			

+ - present

Samples 1 and 2, contexts 502 and 512

Samples 1 and 2 were taken from possible post-holes in an area of ferruginous gravels. The residue was entirely composed of iron concreted gravels and ironstone and this represented nearly two thirds of the total sample volume, a much higher concentration of gravel than in the other samples. A single unidentifiable charred cereal grain was the only find from either of these samples (Table 3) which might imply, given the extremely low density of cereal grain on the site, that this feature could have been a post-hole. However single grains can readily travel down through the soil, as could the few fragments of mineralised charcoal, as a result of soil processes and no reliance can be given to such a find. The only snail finds in these contexts were shells of *Cecilioides acicula*, which almost certainly burrowed in.

Sample 3, context 542

This sample was taken from the basal fill of a pit in the extreme south-east corner of the stripped area. Two small fragments of shell tempered pottery and two or three pieces of burnt flint were recovered from the sample residue. A small charred fragment is tentatively identified as cereal grain and this pit produced the highest concentration of charcoal (Table 3). Unfortunately the charcoal in all these samples is so mineralised that radiocarbon dating is likely to be impossible.

Samples 4, 5 and 6 - ditches 549 and 541

The basal (539) and upper (538) fills of ditch 549 and the fill (540) of an earlier ditch (541) cut by 549 were sampled. The early ditch, 541, produced a number of small sherds of shell tempered pottery, three fragments of unidentifiable charred cereal grain and a little mineralised charcoal. A mollusc assemblage including numerous shells of aquatic taxa (see below) and a few valves of ostracod, a freshwater crustacean, indicate that the ditch was at

least seasonally water filled. The basal fill (539) of the inter-cutting ditch 549, produced a single fragment of shell tempered pottery, a single flake of hammerscale and a little mineralised charcoal, while the upper fills (538) produced somewhat larger quantities of charcoal but no other finds. An absence of true aquatic molluscs in this upper fill suggests that, in contrast to the basal fill and the fill (540) of the earlier ditch (Table 4), the ditch was probably no longer carrying water during this phase of infilling.

Table 3: The environmental finds from the flotation samples

samp.	cont.	vol. in l.	flot vol.	charcoal #	char-coal wt	char'ed grain #	char'ed seed #	snails #/*	bone #	ostracod #	
1	502	18	<1	1	<1	1		2/1			one grain
2	512	9	<1	1	<1			2/1			
3	542	28	1	4	29	?		2/1			poss grain fragment
4	538	20	6	3	5			3/2			
5	539	20	1	2	<1			3/3			
6	540	20	5	2	<1	1		4/3		1	3 grain fragments
7	550	10	1	2	<1		1	3/3			one charred seed
8	554	10	3	1	<1			2/2			
9	562	20	1	3	3		1	2/1			hazelnut
10	563	4	1	1	<1			2/1			rabbit dropping?
11	566	10	5	1	<1	1		3/1			1 grain, rabbit droppings
12	528	20	1	2	1			3/2			
13	524	19	7	1	<1		1	5/3			one charred seed
14	560	10	1	2	2	?	1	3/2	<1		hazelnut, burnt bone, poss. grain fragment

frequency of items: 1=1-10; 2= 11-50; 3=51-150; 4=151-250; 5=>250

* frequency/diversity - frequency as above and diversity as follows: 1=1-3; 2=4-10; 3=11-25; 4=26-50 taxa.

Samples 7 and 8, post-hole 551 and gully 555

These two samples derive from features cut into the fills of a linear ditch. The posthole produced a little burnt flint and a single charred weed seed, while the gully fill produced no finds.

Samples 9, 10, 11 and 14 - dispersed postholes and pits in the north east corner of the site

None of these features produced any archaeological finds, but contexts 562 and 560 produced charred hazelnut shell, context 566 a single charred cereal grain, while 560 also produced a possible fragment of charred grain and a few burnt and degraded fragments of unidentifiable bone.

Two of these samples produced rabbit droppings, 563 and 566, and one must consider the possibility that the interpretation of these features may be in error, and a more recent origin should perhaps be considered.

Samples 12 and 13, fills of linear ditch cuts 526 and 523

Only the fill of ditch 523 produced any finds, in this case a possible tiny sherd of pottery and a fragment of 'modern' glass. The environmental finds other than snails were limited to a single charred weed seed in the fill of ditch 523.

Discussion

There is very little indication of human activity in any of these samples. The fills of ditch 549 and pits 542 and 556 include the only real indication of nearby occupation, although finds of charcoal, charred hazelnut and rare cereal grains in some of the other samples suggest some activity. With a maximum of only seven cereal grains from all the samples these cannot necessarily be relied upon as contemporary with their deposits, and the clear evidence for

modern rootlets, the high frequency of the burrowing blind snail, and numerous uncharred seeds of goosefoots and other weeds shows that there has been substantial transport of material down the profile. Finds such as the single flake of hammerscale in context 539 are also therefore suspect. The loose textured sandy gravels of the site would readily permit movement down through the soil.

Table 4: Mollusc taxa recorded during the preliminary scan of the samples

sample	3	4	5	6	7	8	9	11	12	13	14
context	542	538	539	540	550	554	561	565	528	524	560
<i>Cecilioides acicula</i>	++	+++	++	++	++	++	++	++	++	+++	++
Catholic											
<i>Trichia hispida</i>	+	+	+	+	+	+	+			+	
<i>Cochlicopa</i> sp.			+	+							
<i>Helix/Cepaea</i>					+						
Open country/grassland											
<i>Helicella</i> sp.			+							+	
<i>Pupilla muscorum</i>		+	+	+					+	+	
<i>Vallonia</i> sp.	+			++							+
<i>Vallonia excentrica</i>	+						+	+			
<i>Vallonia pulchella</i>		++	+		+	+			+	+	
<i>Vertigo</i> sp.			+	+	+	+					
Shaded/woodland											
<i>Vitrea</i> sp.				+							
<i>Clausilia</i> sp.					+				+		
<i>Retinella radiatula</i>			+								
<i>Retinella nitidula</i>											
<i>Oxychilus</i> sp.				+	+						
<i>Discus rotundatus</i>					+						
<i>Carychium</i> sp.			+	+	+	+				+	+
Marsh/damp areas											
<i>Vertigo antivertigo</i>										+	
<i>Succinea</i> sp.				+						+	+
<i>Lymnaea truncatula</i>		+	?	++	+				+	+	+
Aquatics											
<i>Planorbis leucostoma</i>			+	+						++	+
<i>Planorbis laevis</i>			+	++		?			+		
<i>Pisidium</i> sp.			+							+	

+ - present 1-10 shells; ++ - 11-50 shells; +++ - >50 shells

The molluscan evidence (Table 4), excepting the shells of the burrowing blind snail, is perhaps the only environmental evidence that can usefully be used for interpretation of the site. The burrowing snail *Cecilioides acicula* is abundant throughout the deposits, occurring in all the samples, often in considerable numbers and those samples in which this was the sole taxa have been left out of the table.

Freshwater taxa are present in all the ditches and gully, and also in pit 556. These include *Pisidium* sp., *Planorbis laevis* and *P. leucostoma*. These taxa are found in ponds, marshes and ditches, the latter particularly in those that dry up seasonally (Macan 1976). A marsh or damp ground element is indicated by the presence of *Lymnaea truncatula*, *Succinea* sp., *Vertigo antivertigo* and probably *Carychium* sp., although these latter were specifically identified as *Carychium minimum*, the member of the genus typically associated with fens and carrs.

As in the samples from previous work at the site (Rackham 1998) most deposits produced specimens of the genus *Vallonia*, and a suite including, *Pupilla muscorum*, *Vertigo* sp., *Hygromia hispida*, with less frequent occurrence of *Cochlicopa* sp., *Helicella* sp., *Clausilia* sp., *Retinella radiatula*, *Retinella nitidula*, *Oxychilus*, and *Discus rotundatus*. This assemblage again suggests a largely open country fauna on the site contemporary with the sampled features.

Potential of the samples

The potential for further work on these samples is very limited.

The charcoal is unfortunately too mineralised to permit radiocarbon dating, even context 542 which produced 29 grammes. This mineralisation also makes identification of the charcoal extremely difficult. Most of the charcoal is too small even to comment on the wood type, but there was little indication of small roundwood or twigs in any of the the samples.

The charred seed evidence is so limited, potentially unreliable and poorly preserved that further work is unlikely to produce any new information.

The molluscan assemblages again afford the only significant environmental potential. This category of data may give us both some indication of the local environment on the site and evidence for any change through time and should compliment the samples recovered from previous work at the site. A detailed analysis of a selection, after completion of all the field work, of the larger assemblages from the well dated contexts across the whole site should permit these questions to be addressed with confidence.

Acknowledgments

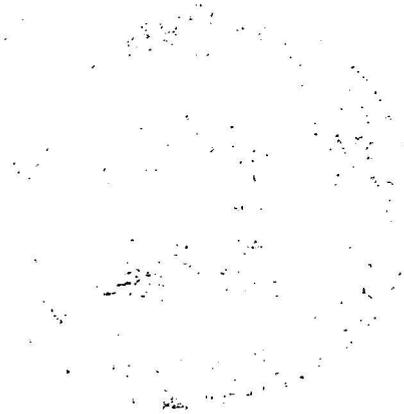
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