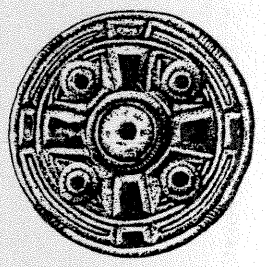

Archaeological Field Unit

A MIDDLE IRON AGE SITE AT GRANTA PARK, GREAT ABINGTON, CAMBRIDGESHIRE

S. N. Kemp BA Msc AIFA

1999

Cambridgeshire County Council

Report No. 161

Commissioned by

Glanville and Associates on behalf of TWI Estates

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SUMMARY

During March 1998 the Archaeological Field Unit of Cambridgeshire County Council excavated a 0.45ha area within The Welding Institute's proposed Granta Park development. This work was funded by TWI Estates and followed three previous campaigns of investigative work which defined the archaeological potential of the development site. This process of systematic investigation highlighted the importance of a small area of land where middle Iron Age settlement remains were known to lie.

Excavation of the 0.45ha area revealed over sixty middle Iron Age pits of which 70% were excavated. Mesolithic, Neolithic and Bronze Age activities in the excavation area were also recognised.

Excavations were able to distinguish both the initial purpose of the middle Iron Age pits, which appears to have been for grain storage, and the reason for their abandonment. Rising ground water levels meant that many of the riverside pits became damp and no longer suitable for their original purpose. At least four phases of pit digging and infilling have been identified of which the last was demarcated by a series of placed deposits which included pottery and knives, showing that a series of rites were undertaken to indicate a change in function for this piece of land. Subsequent to these activities the pits were backfilled with midden deposits consisting of hearth fragments, animal bones and pottery which suggest that occupation areas were at no great distance from the excavated area. This settlement did not lie within the evaluation area and therefore must have lain to the east. It has either been quarried away or lies beneath the existing buildings of the Welding Institute.

The association of Iron Age rituals with the pits was not a singular event at this site. A sheep/goat burial in another pit was an example of earlier ritual episodes and it is possible that the re-excavation of pits in antiquity may have removed other events. Excavations also showed that ritual deposition at this site had a long tradition as a similar deposit was found which dated to the late Bronze Age.

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A Middle Iron Age Site at Granta Park, Great Abington, Cambridgeshire.

TL52334906

1 INTRODUCTION

Excavations of a 0.45 ha area within the Granta Park development site at The Welding Institute, Abington Cambridgeshire were undertaken by the Archaeological Field Unit of Cambridgeshire County Council between the 27th February and the 7th April 1998.

The archaeological work was commissioned by Glanville Consultants on behalf of TWI Estates and followed three earlier phases of site evaluation which included a historical and archaeological resource survey (Leith 1997), trial trench (Cooper and Hinman 1997) and test pit evaluations and field walking (Bray and Way 1997).

This report details the findings of the 1998 excavations but contains references to these earlier works. The 1998 excavations focussed on an area of Bronze Age and Iron Age pits beside the River Granta. Test pit 30 excavated by Bray in 1997 was also contained within the 1998 excavation area and is analysed as part of this study, the results having been reinterpreted in light of the additional data recovered during the 1998 excavations.

2. LOCATION AND DEVELOPMENT.

The development area totals 27 ha and is bounded by the River Granta to the north, the A11 to the west and the Welding Institute to the east (Figures 1 and 2). The development proposals consist of buildings, car parks, roadways and recreation areas (Leith 1997) involving substantial earthmoving operations and consequent ground disturbance. Before the development took place, the land was divided into two fields, the larger (field A) having recently been cultivated as arable, and the smaller (field B) being used as a sports field.

The two phases of field evaluations defined the north-east corner of Field A as of special archaeological interest following the identification Iron Age pits and prehistoric flint scatters. This north-east corner area was bounded by the River Granta to the north and a quarry to the east where rubbish was dumped up to the 1950's. The site is located at National Grid Reference TL52334906.

3 TOPOGRAPHY AND GEOLOGY

As noted above, the excavation area lies on the south side of the River Granta. The land rises sharply from the river to about 35m OD (Figure 2). The gravel terrace defines a narrow corridor on the southern side of the river, an area which was from time to time flooded, an aspect reflected in the stratigraphic sequence discussed below. On the northern side of the river the floodplain is more extensive.

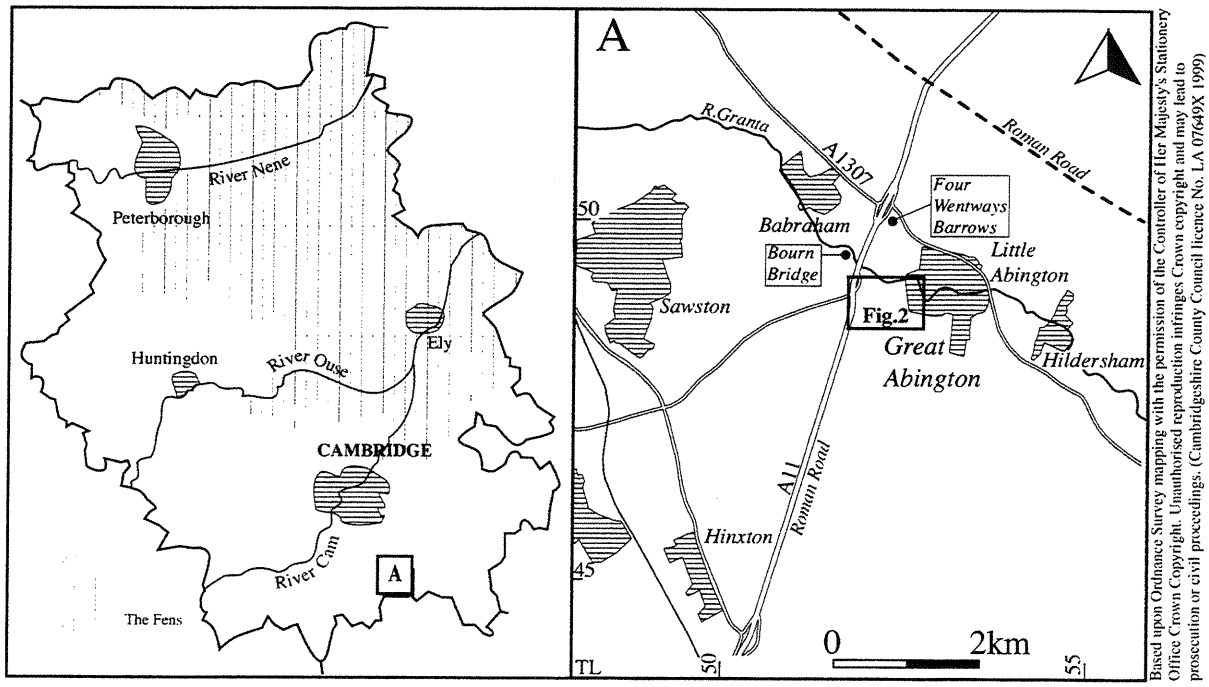


Figure 1 *Site location*

First and Second Terrace Gravels lie along the course of the River Granta and proved to be the basal deposits during these excavations. Although these gravels may well have an archaeological implication, this was not explored during the present project, owing to the limited impact of this development on these deposits. For the purpose of this report they are considered to be the 'natural'.

Rather than terrace deposits associated with the River Granta these terrace gravels may represent the remains of a former river system which ran along the chalk scarp which may explain their high chalk content (Boreham pers. comms.). Pollen from clays and marls exposed within the quarry and analysed by the Geography Department of Cambridge University indicate the survival of important last interglacial sediments beneath the Terrace Gravels (Boreham pers. comm.)

To the southwest of the site lie chalky boulder clays and the Middle Chalk lies to the south (Leith 1997).

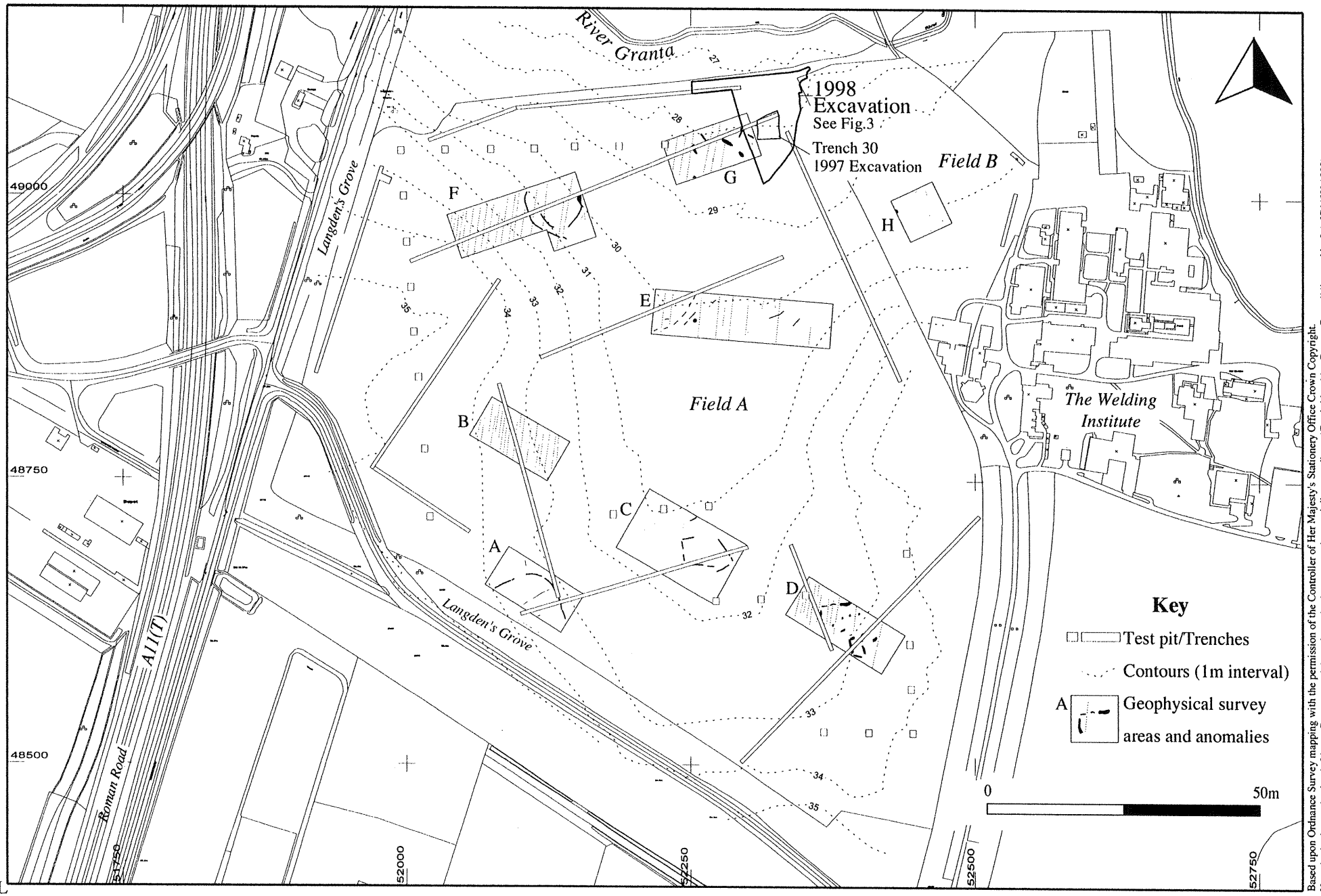


Figure 2 *Location of excavation area and previous archaeological work*

4 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The archaeological and historical development of the site has been thoroughly considered within the desk-based study written by Leith (1997). That report highlighted the density of Neolithic and Bronze Age lithic artefacts encountered during fieldwalking along these River Granta terrace gravels, particularly at Bourn Bridge where excavations also revealed extensive Iron Age remains.

Prehistoric

Less than 1km to the north of the site lay the remains of plough-damaged Bronze Age barrows (Figure 1) of Four Wentways (Barclay and Williams 1994). Excavations at these barrows produced evidence for flint knapping and also Iron Age and Roman pottery (Leith 1997).

Field evaluations undertaken in 1997 as part of this scheme of works produced a large collection of late Neolithic and early Bronze Age date stone tools and knapping waste from the plough soil. Two pits of early to middle Iron Age date (800-100BC) were investigated (Cooper and Hinman 1997). Both pits were encountered in the north-eastern corner of the site where later investigations were to concentrate (Figure 2).

In a subsequent phased evaluation, fieldwalking and test pitting were used to define the exact location of the lithic scatters, to assess for the survival of intact knapping surfaces and define the extent of the Iron Age pits. One hundred and ninety seven flint artefacts were recovered during this phase of fieldwalking with 28 from the test pits. A further 164 flint artefacts were recovered from Test pit 30 which lay within the 1998 excavation area. No in situ knapping areas were identified and it was recognised that a largely Neolithic/early Bronze Age lithic assemblage was contained within Iron Age pits. Mesolithic and Palaeolithic components were also identified and witness a long period of prehistoric resource exploitation along the banks of the River Granta.

Roman

The development area is bounded to the west by the A11, a Romanised length of the Icknield Way (Figure 1). This appears to have been an important routeway between the north East Anglian Coast and the Thames Valley (Margary 1973).

Excavations at Bourn Bridge revealed two Roman settlement sites (Leith 1997). Remains of ditches, pits, post-holes and field systems were identified (Evans 1993; Pollard 1996). Whilst important late Iron Age and Roman settlements, burial and agricultural sites have been found in similar situations 5km to the southwest, adjacent to the River Cam at Hinxton (Kemp and Spoerry 1998; Alexander and Hill 1996).

Roman pottery has also been found within Great Abington about 1 km from the development area and these finds have been thought to be evidence of a Roman villa (Leith 1997). If so, this is the closest known Roman settlement, and the few Roman remains encountered within the development area may be associated with it.

Saxon, Medieval and post-Medieval

Leith identified Saxon remains as lying close to development area. The name of Abington is considered to have Saxon origins (Reaney 1943). Recent excavations at Bourn Bridge, Hinxton Hall and Hinxton Quarry have all identified important Saxon settlement remains in adjacent parish.

Great Abington is known from the Norman Conquest when it was recorded in the Domesday Book. The manor was held by the Earls of Oxford until the seventeenth century. The Hall is described in 1279 in the Hundred Rolls and consisted of an open hall with a raised stage. Palmer describes the Hall as including gardens, orchard and outbuildings which were bounded by a moat which could be seen on maps up until 1801 (Leith 1997).

By the early seventeenth century the development area was part of Great Abington's open field system and this had probably also been the case for much of the Middle Ages (Leith 1997). Given the scarcity of archaeological features within much of the development area and our knowledge of the historic development of the area, it is quite likely that these fields have been considered as agricultural land since late Prehistoric or Roman times. The river gravels adjacent to the River Granta have light soils and are free draining.

Leith indicates that during the eighteenth century and much more recently that the terrace gravels were an important source of sands and gravels for the area (Leith 1997). The 1716 map of the Abington Hall estate (CUL Maps bb.53(1).93.8) shows the north-west corner of the development area marked as 'Gravel Pit Piece', and quarry pits still survive in the northwest corner of Langden's Grove (Figure 2).

In 1687 orchards, kitchen gardens and a walnut avenue lay around the Hall. The main park had been created in the early seventeenth century. By 1791 the area around the hall was given over to a 24 acre pleasure garden. The hall gardens were expanded to 87 acres when the park was landscaped by Repton in 1803 (Way 1999). Leith suggests that the trees in Langden's Grove and along the River Granta may date to this period (Leith 1997).

In 1929 the estate was broken up. The site immediately to the east of the excavation area became a gravel quarry and later a rubbish dump whilst the majority of the site was held by Pampisford Hall. All of these lands are now in the hands of the Welding Institute who purchased the Hall in 1946 (Leith 1997).

5 METHODOLOGY

Initial trial trenching, geophysical survey and desk-based research suggested only sparse archaeological remains throughout most of the development area (Figure 2). However, the structure of the evaluation and the tenacity of the team did identify an important lithic assemblage resident in the topsoil adjacent to the river and two Iron Age pits in the northeast corner of the development area.
Test pit evaluation and fieldwalking were used as a means of refining the extent of any proposed investigation area. This work was undertaken in the late summer and early autumn of 1997. Fieldwalking and evaluation showed that the majority of the lithic assemblage was contained either within the topsoil or within Iron Age pits. This stage of the evaluation also pin-pointed the location of the Iron Age site which had been linked to by the earlier discoveries.

Following these earlier phases of investigation an excavation area of 0.45 ha was defined by the County Archaeology Office as of archaeological importance and a design brief detailing the County Archaeology Office's requirements for archaeological work presented to The Welding Institute (Figure 2). The Archaeological Field Unit was requested to implement a mitigation strategy defined by the County Archaeology Office which included the retrieval of archaeological remains from the site.

The aims and objectives of the archaeological work were to preserve the archaeological evidence by record and attempt to reconstruct the landscape history and use of the site. The research priorities as laid out by the County Archaeology Office were the investigation of the extent of the surviving Mesolithic evidence and the relationship of this activity to the palaeolandscape. The investigation of the morphology of any Neolithic/Bronze Age settlement and the investigation the morphology of the mid/late Iron Age settlement and associated activities.

The mitigation strategy included a phase of test pitting prior to open area excavation in order to assess the quantity of lithic artefacts within the plough soil. Few artefacts were retrieved by this method and many of those that were recovered came from immediately above archaeological features. Therefore test-pit topsoil excavation was immediately followed by the removal of the topsoil to expose archaeological features and the natural sands and gravels.

A blanket of alluvium was found to overlie the Iron Age archaeology on the northern part of the excavation area. This was removed during the course of machining once it was confirmed that only the latest archaeological features cut through these deposits. Plans showing the extent of later alluviation were made during the course of machining.

Once machine removal of the topsoil and later alluvial deposits was completed limited cleaning of the site was undertaken by hand in order to clarify extent of features and enhance the pre-excavation survey. The survey was undertaken with the intention of producing 1:50 pre-excavation plans which could be amended by the excavator during the course of feature excavation. The pre-excavation survey was undertaken rapidly using a total station with the plans drawn using a survey/CAD programme. Plans were plotted onto permatrace for use on-site.

Pits and post-holes were excavated in quadrants, half section or in plan to assess for any potential data loss i.e. where small features within pits may have been missed as a result of half section excavation. Features internal to the pits tended to be the result of recutting and were of a scale which meant that they would have been visible within a section. On the other hand excavation in plan did not provide the detailed stratigraphic record required to assess the sediment and artefact deposition which proved to be an important to understanding on-site prehistoric activities. All excavated features were sampled to a minimum 50% with 10% of all pits entirely excavated

Feature recording was undertaken by the excavator and consisted of amending the 1:50 site plans as an accurate record of the excavated feature. This was supplemented by 1:10 or 1:20 section drawings and context records detailing the nature and consistency of all features, fills and layers encountered within the excavation area. Photographs, colour and black and white prints, and slides were taken in order to assist the analysis of the record and future presentation of the site.

All pottery, lithics, exotic or worked stone, metal work and animal bone were collected. Discard was undertaken where appropriate as part of the post-excavation analysis. Environmental samples were taken of pit fills as appropriate and were analysed by James Rackham of the Environmental Archaeology Consultancy. The Animal bone was analysed by Ian Baxter, the Iron Age pottery by Dr Paul Sealey of Colchester Museum, Lithics by Dr Twigs Way and the metal knives by Brian Gilmour. The results of the specialist analyses are outlined and discussed within this report, whilst the full details including methodological statements can be found in the appendices.

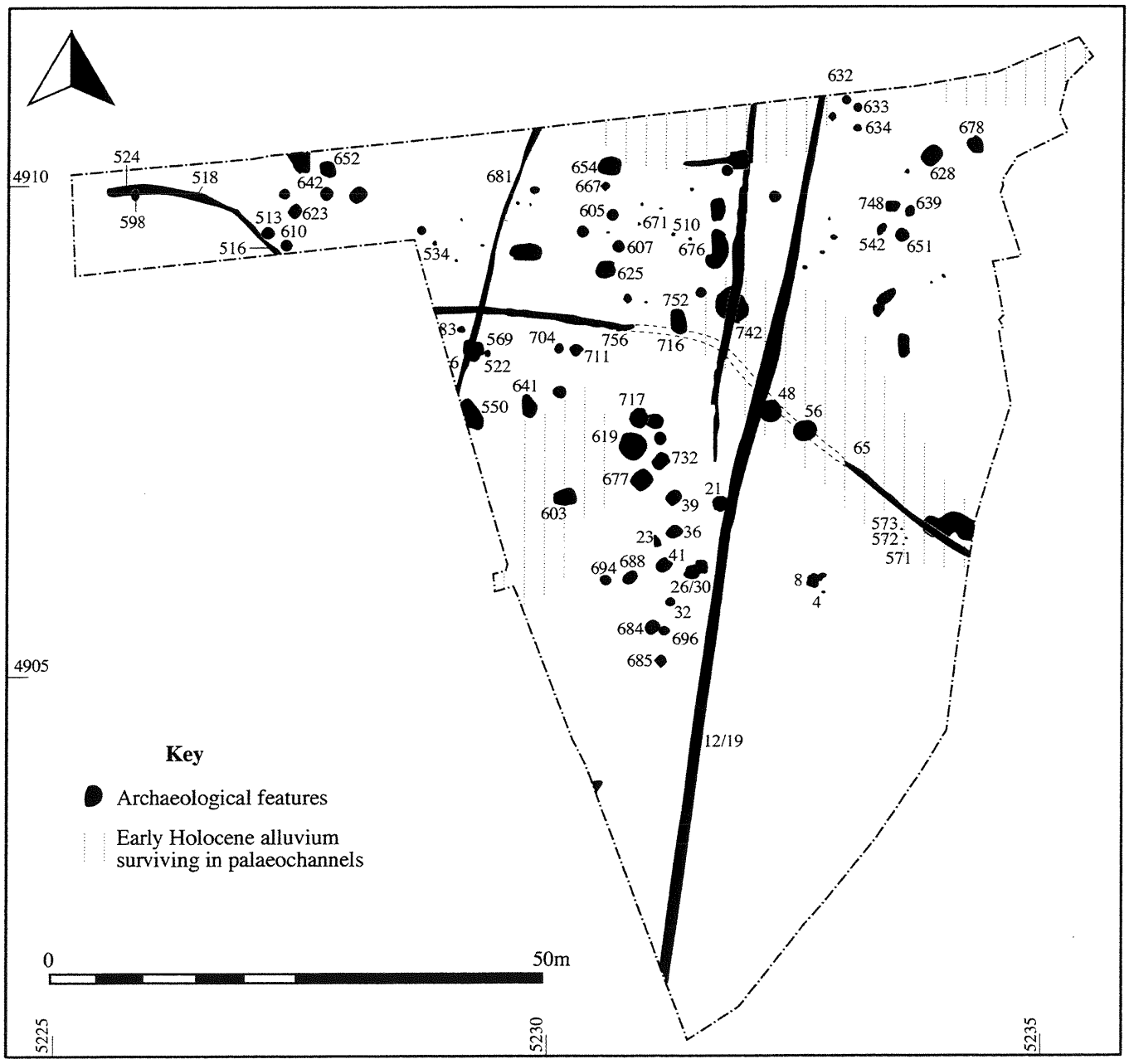


Figure 3 *Excavation area detail*

6 RESULTS

These results report on the excavation area of 1998 and Trench 30 of 1987 which was encompassed within the main 1998 excavation area (Figures 1 and 2). Seventy-nine features were excavated of which sixty-one were pits of Bronze Age or Iron Age date. Seventy per cent of the pits were excavated.

Stratigraphy

The basic stratigraphy of the site consists of terrace gravels which are the basal deposit in the excavation area and into which much of the archaeology had been cut.

On the eastern side of the site lay a palaeochannel which ran northwestwards towards the River Granta (Figure 3). The channel was filled with silts and sands and limited excavations and environmental sampling were undertaken in 1997 and 1998 to establish its relationship to the archaeology. No artefacts were recovered from the channel deposits and pollen analysis indicates only the presence of grass. The sediments infilling the channel were *in situ* and were deposited quickly and are likely to date to an early part of the Holocene (Boreham pers. comm.). The channel was therefore inactive and probably completely dry by the time of the Iron Age activity on the site, but may have had some significance to the earlier Mesolithic occupiers of this landscape.

Alluvial deposits can be seen adjacent to the River Granta and indicates a complex environmental history of at least two major phases of flooding. Although inactive the palaeochannel mentioned above survived as an upstanding morphological feature along which later alluvial rich floodwaters were channelled. This extinct (palaeo) channel was therefore visible to the Bronze Age and Iron Age populations and may have had some influence on the structure of site activities or the artefact distribution encountered during excavation.

Evidence from the north-west arm of the site indicates the survival of a phase of pre-Iron Age alluviation external to the palaeochannel. The extent of this deposit is restricted lying adjacent to the curvilinear ditch **516/518/524** where the gravels begin to rise away from the river (Figure 2 and 3). A second phase of alluviation lies across much of the northern part of the site and extends up the palaeochannel (Figure 3). This is more or less bounded by the east-west ditches **65**, **756** and the curvilinear **516/518/524**. This deposit overlies the Iron Age pits (Figure 12), however, the relationship with the east-west ditches was unclear since these are not only located at the boundary of the alluvium but also at the point where the natural topography changes. Figure 12 shows that ditch **516/518/524** was cut during an extended period of alluviation and suggests that there were at least two phases of alluviation. The similarity between many of these deposits means that it is difficult to define boundaries to each phase. It is likely that each phase consisted of numerous events re-working earlier deposits, and the final phase is considered to represents a period of alluviation throughout which archaeological activity continued.

Given the build up of sediments across the northern part of the site surprisingly little in the way of buried soils was encountered. A small section of a buried soil appeared to survive adjacent to ditch **516/518/524**, however, much of the profile was missing as a result of Iron Age pitting (Figure 12). The junctions between layers across the site appear to be very sharp and were presumed to either indicate that the flooding on its own was suitably erosive so as to truncate the site. Alternatively, the soil structure was sufficiently disrupted by ploughing that the plough soil was incorporated into the alluvial sediments. No soils appear to

have had time to develop within the alluvial sequence indicating that alluviation was probably a regular occurrence along the river during the prehistoric and historic periods.

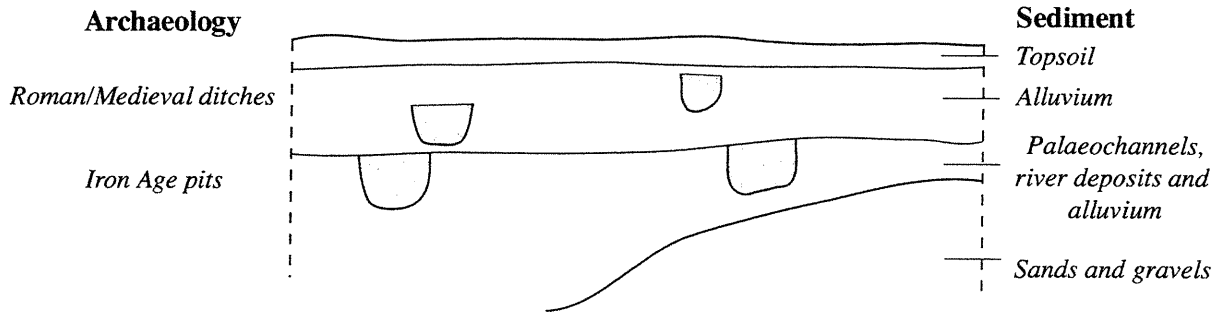


Diagram showing the site's stratigraphic sequence.

Archaeology

The excavated archaeology found within the site is described within the following section by period, where this can be defined, and by feature type. Not all of the features have been dated and assumptions about their date have been made based on the stratigraphic position of the archaeology and types of features excavated in particular periods. For example all pits are overlain by the later alluvial deposits and based on similar pits which could be dated were probably dug and infilled in either the Bronze Age or Iron Age. All of the ditches on the other hand appear to cut the later alluvium and some excavated segments contain Roman pottery and have therefore been grouped together.

The text below provides a brief description of the cut and fills of individual features as well as an element of interpretation. Where specific use or disuse activities can be defined these are reported in the text section. Finds and environmental evidence from each feature are also outlined below. A more detailed description of a particular features attributes can be found in the appendices.

Because of the sparse nature of some of the archaeology identified within the report and the emphasis placed on the prehistoric remains within the Brief (Austin unpub.) the Bronze Age and Iron Age remains are discussed at length throughout the report at the expense of the more ephemeral earlier and later remains.

Context numbers 1-69 refer to the 1997 excavations (Bray and Way 1997). Those from 500 onwards were excavated in 1998.

Fills are described in their depositional order.

Numbers in bold refer to cut/feature numbers.

The term gravels has been used to describe deposits of gravel, usually under 0.10m in maximum length with occasional chalk inclusions, which resemble the local terrace gravel deposits. Where larger flint and sandstone inclusions have been identified they have been described in the text.

Bronze Age pits and infill sequences.

Two features were found to contain Bronze Age pottery. In fill 3 pit **4** there was of a single sherd of early/middle Bronze Age pottery which whilst attesting to early activity on the site could be residual. Pit **4** cut pits **8** and **6** which are also discussed as part of this group, even though their is considered to be insecure.

Pit **711** contained a large assemblage (22 sherds) of late Bronze Age pottery from two vessels in a position which suggests intentional deposition (Figure 5). However, whether this pot represents late Bronze Age activity or whether it is a curated artefact is unclear as it has a similar finds arrangement to the middle Iron Age pit 619. If curated one might expect traces of continuity on the site, however, evidence for early Iron Age activity is lacking. Furthermore, the fill deposits are sufficiently different to characterise this as an intentional late Bronze Age deposition.

Feature No.	Description
4	An oval pit of 1.68m x 0.65m with a depth of 0.21m which cut through the fills of pits **6** and **8**. Pit **4** was steep sided with a concave base. It was filled with dark yellowish brown sandy silt (3) with up to 20% sub angular flints gravels. A single sherd of early to middle Bronze Age pottery was recovered from the fill.
6	Circular pit of 0.65m in diameter which had been truncated by pit **4**. Pit **6** was steep sided with a concave base and was filled with dark yellow brown sandy silt with up to 20% sub angular flints gravels (5).
8	Irregular sub-circular pit of 1.89m x 1.19m with a depth of 0.40m which had been truncated by pit **4**. Pit **8** had very steep sides and a concave base. There was a single fill of dark yellow brown sandy silts (7). The evidence for early/middle Bronze Age features within the excavation area rests on a single abraded sherd of pottery. Unfortunately the interpretation of these features is problematic as the excavators hold some suspicion that features **6** and **8** may be tree throws and that **4** could also be part of this structure.
711	Circular pit with a diameter of 0.96m and a depth of 0.21m. Almost vertical sides and a flat base. The pit contained three fills. The basal fill (710) was a dark yellowish brown silt with chalk flecks and flint gravels which was 0.20m in depth. This fill contained 22 sherds of late Bronze Age pottery which came from two incomplete vessels, 23 lithic artefacts, 3 fragments of animal bone and a bone awl (SF 105, Figure 4)). This deposit lies around the edge of the cut and would appear not to have encroached on the centre of the feature (Figure 5). Above this fill lay a yellow brown to dark greyish brown silty clay becoming stoneless towards the top of the sequence. This deposit filled the central part of the feature. The upper fills contained 112 fragments of bone of which 14 were identifiable to species, including red deer, cow, pig and sheep/goat.

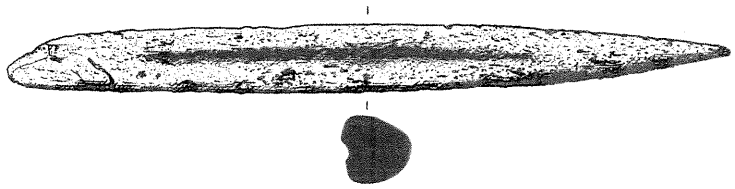


Figure 4 *Bronze Age bone awl 710/**711**(SF.104) 1:1*

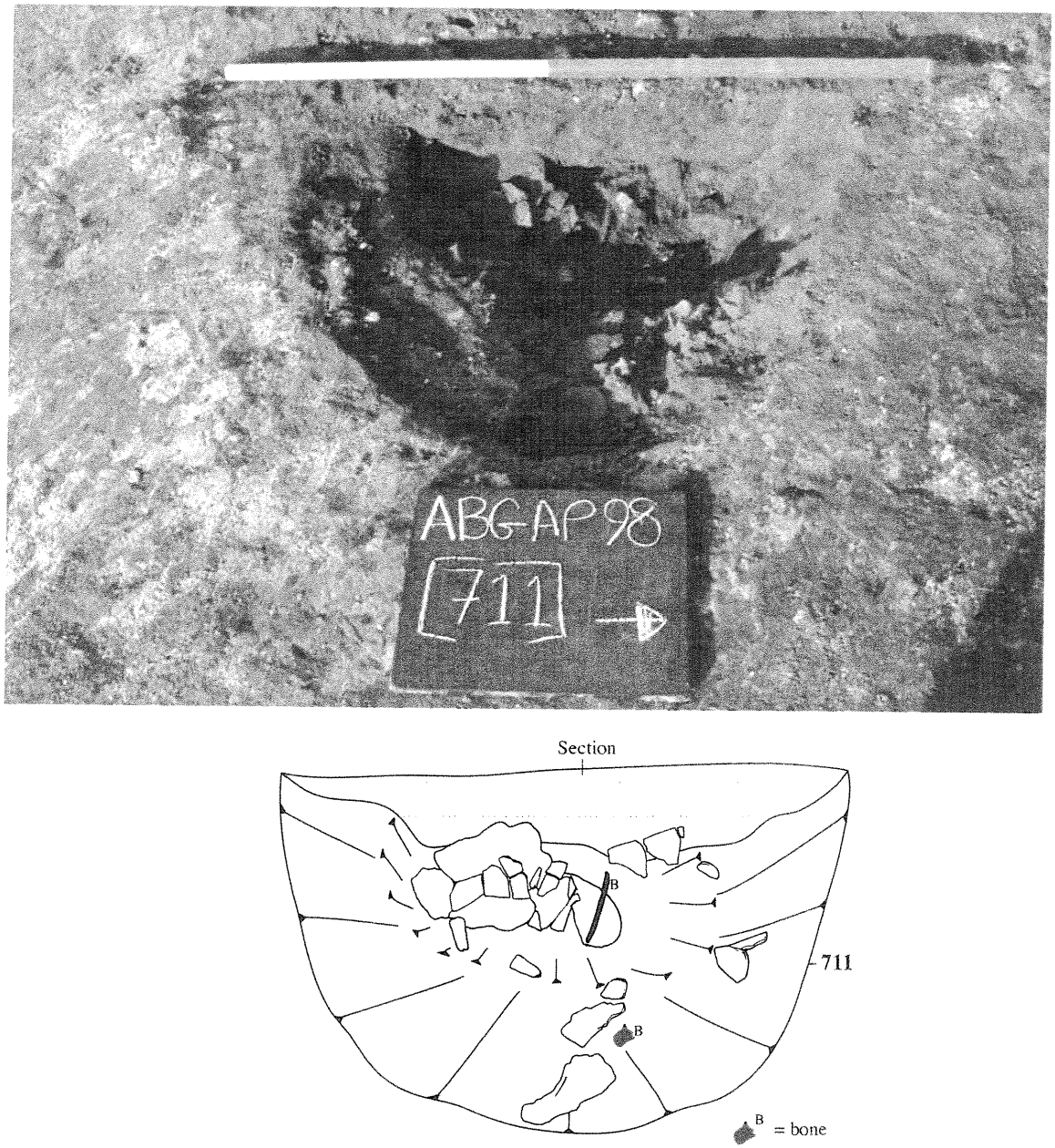


Figure 5 *Photograph of Bronze Age placed deposit in Pit 711 (top) with sketch showing position of pottery and bone (below).*

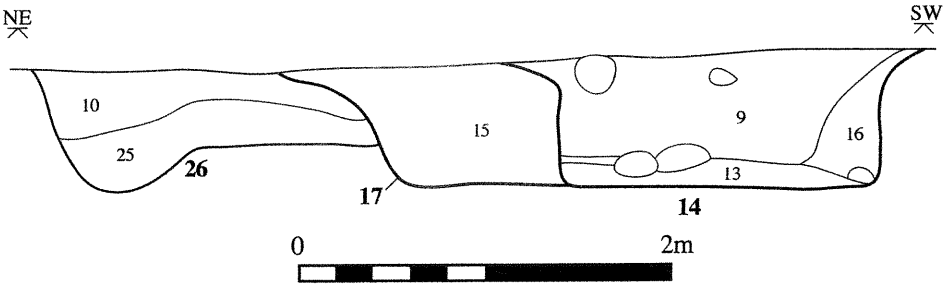


Figure 6 *Section of Pits* ***17*** *(See Figure 7, below),* ***26*** *and* ***14***

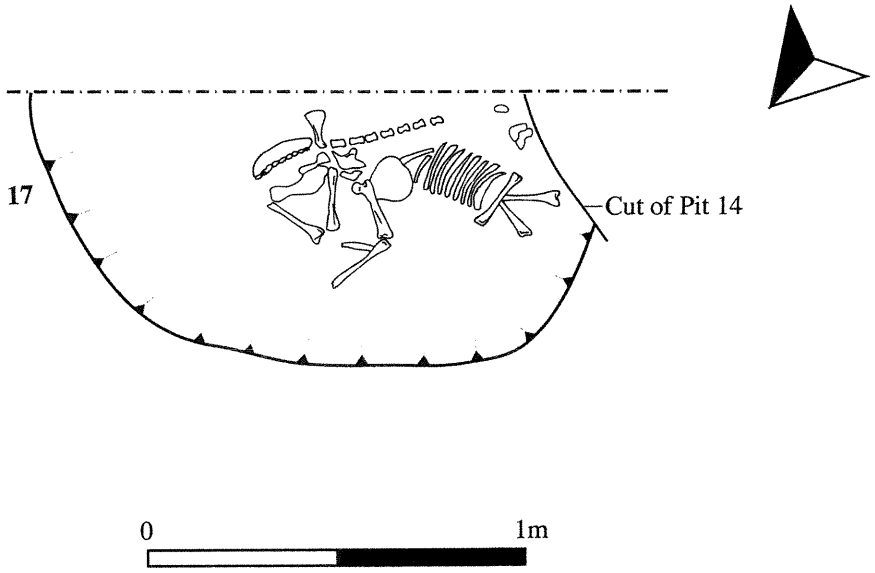


Figure 7 *Bronze Age Sheep burial*

The pottery, animal bone and flint were found as a single discrete group on the southern side of the pit 711. Photographs of the assemblage taken during excavation suggest that the group dipped in towards the centre of the pit as though the items were thrown or tipped into the feature whilst the pit was in the course of infilling (Figure 5). This would suggest that the disuse phase was

not solely completed by natural infilling and pits had a final functional use beyond the first constructional intention.

The quantity of bones in the upper fills of pit **711** suggest that either the discard seen in the earlier phase of the pit continued, albeit the contents were more carefully selected or alternatively that activities associated with the processing of animal bones took place close to the pit. Such an activity area lying so close to the site is in stark contrast to the middle Iron Age situation and would support the contention for a late Bronze Age component to the site.

Mesolithic, Neolithic and Bronze Age Summary.

Lithic material certainly attests to early prehistoric activity dating back to at least the Mesolithic within the excavation area. The majority of these artefacts have come from features located in vicinity of the palaeochannel and to the south of it. Mesolithic and Neolithic knapping debris and tools are represented in Bronze Age, Iron Age and Roman features. The majority of the assemblage is residual and are therefore of little help in identifying specific Bronze Age activity areas.

The dumps of lithics, pottery and bone in pit **711** do show Bronze Age activity in the vicinity which seems to attest to an element of stock management and hunting. However, results of this work would suggest that Bronze Age activity had little impact that can be discerned through the archaeological evidence presented. The investigations across the whole of the development area has shown that the major trace of early prehistoric activity within it is an extensive patterning of largely undiagnostic flint work which spreads across much of the river corridor.

Middle Iron Age Pits and infill sequences

Seventy-six per cent of the excavated pits were found to contain middle Iron Age pottery with apparently no later contamination. It has therefore been presumed that the remainder of the pits, excluding those securely dated Bronze Age pits which have been discussed above, are of middle Iron Age date.

Feature No. **Description**

14 Circular pit of 1.30m x 0.34m (Figure 6). Steep near vertical sides with a flat base. Pit **14** truncated pit **17**. The basal fill (13) was composed of dark yellow brown sandy silts with gravels. Above this lay two deposits of dark yellow brown sandy silts with frequent large flint cobbles of up to 0.15m in maximum length, contexts 16 and 9.

Single sherds of pottery were found in the upper and lower deposits (13 and 9). Fill 13 had 2 unidentifiable fragments of bone whilst fill 9 had 49 fragments of animal bone. Species represented included horse, cow and sheep/goat.

Environmental samples from fill 13 identified charcoal, charred grain in small quantities amongst which emmer wheat, wheat and barley were recognised as well as sheeps sorel and bromes. As these were recovered from the basal fill they may give some indication of the primary function of the pit. Snail shells and frog/toad bones were also identified.

17 Circular pit of 1.30m x 0.30m truncated by **14** (Figure 6). Steep sided with flat base. Filled with a single deposit of yellow brown sandy silt with gravels (15).

No pottery was found within the pit, however, the remains of a semi articulated sheep/goat were found. Figure 7 shows that the vertebrae, hind legs and ribs were laid out in their correct anatomical positions within the pit. Importantly the photos and illustrations show that these elements, although individually articulated, were not joined together at the time of burial. Pig and cow bone were also identified within the pit assemblage.

Environmental samples identified the presence of charcoal, charred grain and seeds as well as snails, rodents and frogs/toads.

21 Circular pit of 1.60m x 0.30m interpreted as a quarry pit during excavation. Steep sided on its western edge with a more gradual gradient on the eastern side of the feature. The base was flat. It had a single fill of yellowish brown silty sand with flint gravels (20). The pit was truncated ditch **12/19** of which segment **19** was excavated at this location.

No finds were recovered from this feature.

26 Sub-rectangular pit 2.1m x >0.70m with a depth of 0.32m which has been truncated by pit **17** (Figure 6). Steep near vertical sides with a concave, stepped base. The pit had two fills of yellow brown and brown sandy silt with gravels (25 and 10).

An environmental sample for the upper fill (10) contained charcoal, charred grain (barley), seeds and snails.

32 Oval pit of 1.06m x 0.74m with a depth of 0.27m. Sides were vertical and the base concave. The pit was filled with two deposits of yellow brown (33) and brown silty sand (31) with flint gravels.

A single sherd of middle Iron Age pottery was recovered from the upper fill (31). Horse and cow bone fragments were identified. The cow bone had been gnawed.

36 Circular pit of 1.4m x 0.56m. Sides were vertical and the base flat. Filled with two deposits of yellow brown sandy silt and gravels (35 and 34).

The upper fill (34) contained a single piece of bone from a cow.

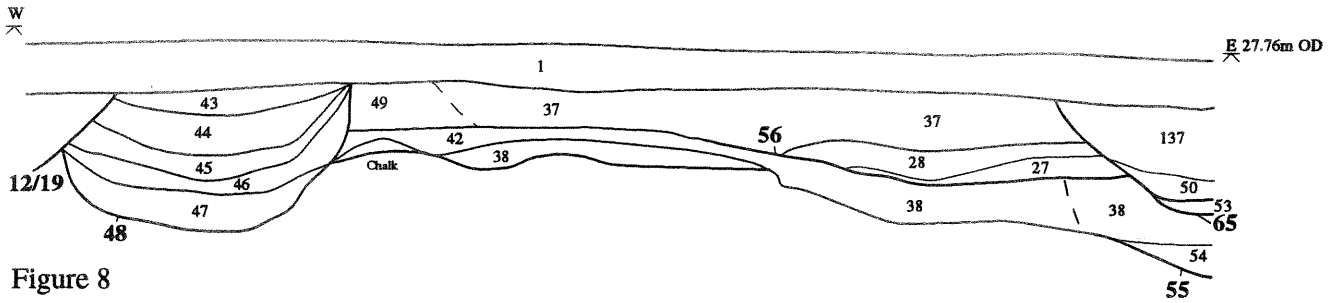
41 Ovate pit of <2.1m x 1.65m with a depth of 0.53m. This excavated feature seemed to consist of two pits, **41** and **67**. There are no records for cut **67**, presumably because other records suggest that this was a natural feature. Pit **41** was also over-excavated by an enthusiastic excavator. The dimensions are therefore anomalous. Ignoring 52 which would appear to be the fill of the natural feature **67**, pit **41** had four fills. The basal fill, which filled almost half of the pit, was a brownish grey silty sand with gravels (40). Above this lay brown sandy silt (39), light grey brown silty sand (51) and grey brown sandy silt (22).

A single sherd of middle Iron Age pottery was found in fill 40 and a further 4 sherds in deposit 39. Four horse bones were found in the upper fill of the pit (22).

An environmental sample for the basal fill (40) was found to contain land snails indicative of dry grasslands.

48 Ovate pit of c.2.60m x c.1.00m with a depth of 1.60m (Figure 8). This pit was incompletely exposed when excavated and was truncated on its western side by ditch **12/19**. It had steep sides and a slightly concave base. The pit was filled with yellow sand (47) at the base, overlain by pale brown (46), light brown (45) and brown (44) silty sands and silts (43).

No finds were recovered



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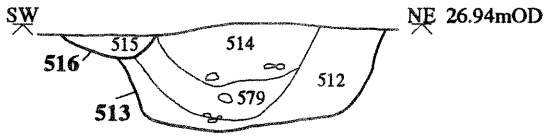

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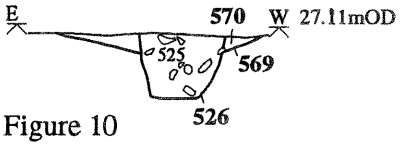

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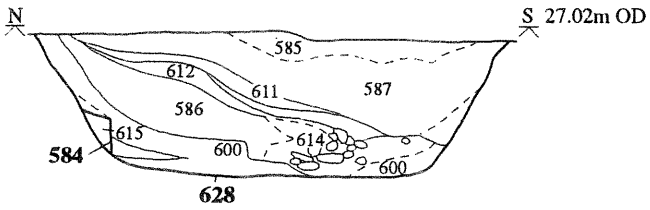

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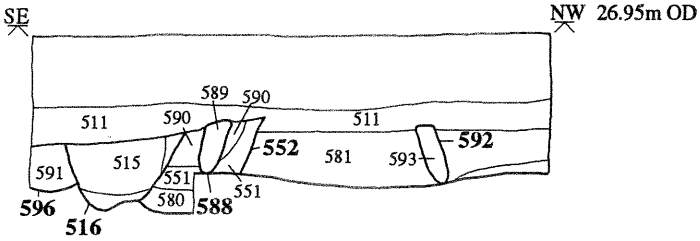

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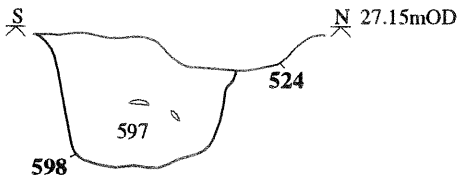

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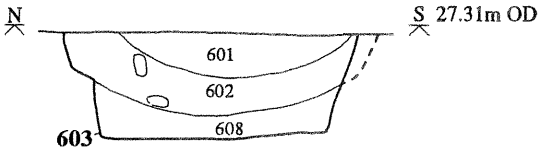

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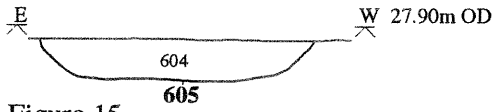

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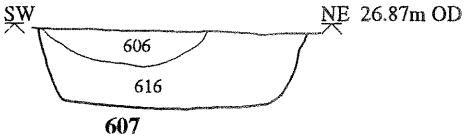

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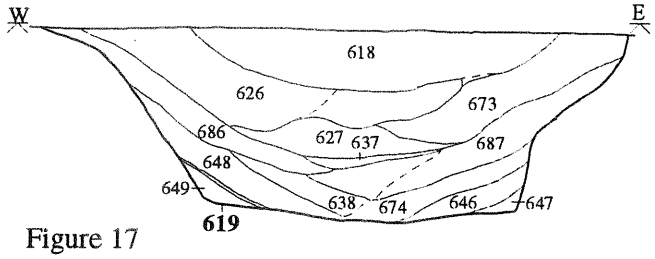
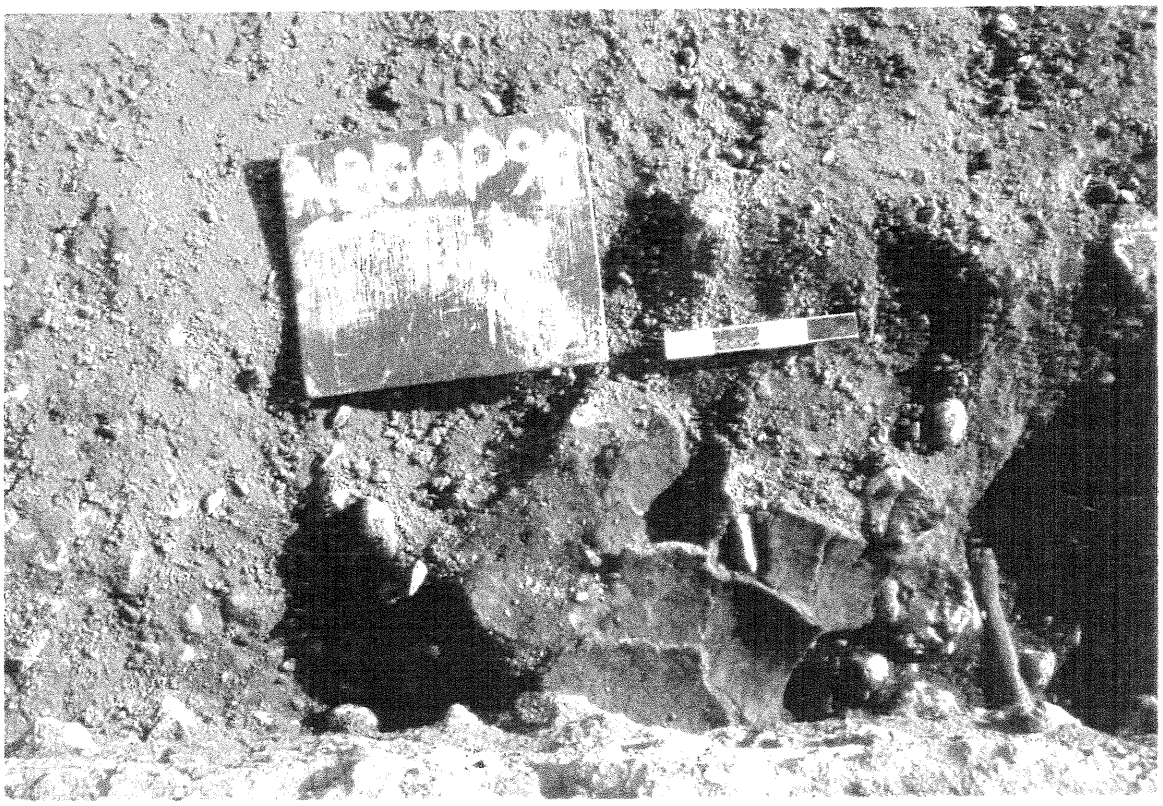


Figure 17

Figures 8-17 Sections of Iron Age pits



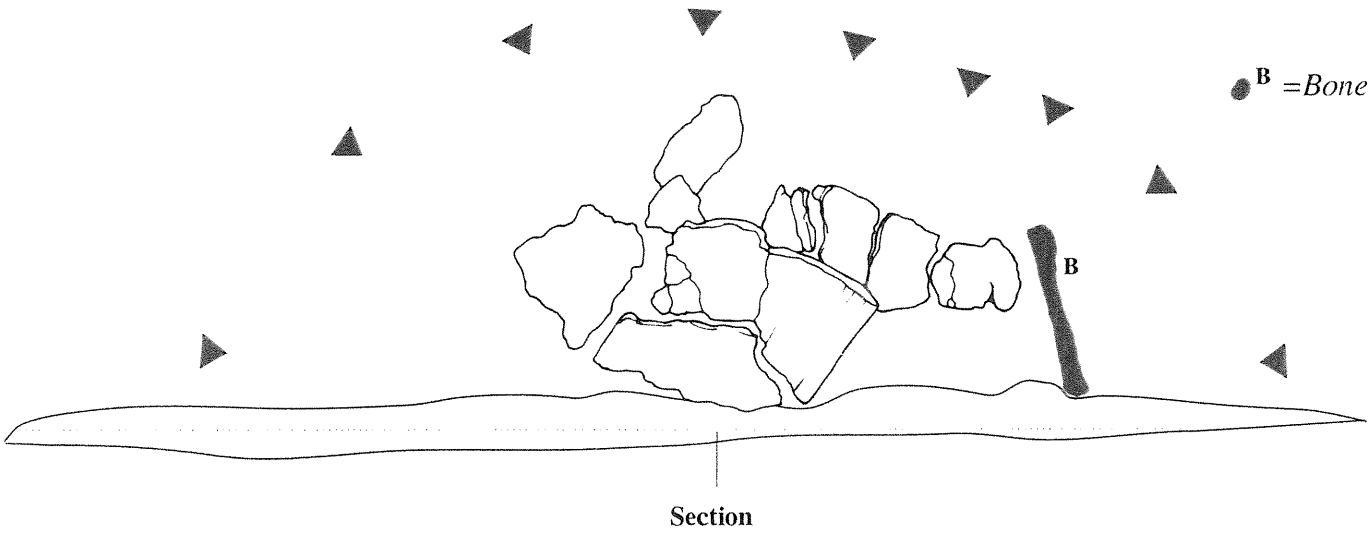


Figure 18 *Photograph of placed deposit in Pit* ***619*** *(top) with sketch showing position of pottery and bone (below).*

55 Possibly an ovate pit of c.1.60m x c.1.00m with a depth of 0.20m which had been significantly truncated by feature **56** (Figure 8). Concave sides and base. Filled with brownish yellow sand (54). However, as this feature had a very sandy fill and would appear to lie on the southern side of the palaeochannel it is considered likely that it was of natural origin.

56 Sub rectangular pit of 2.40m x 1.20m with a depth of ? (Figure 8). This feature was clearly seen in plan during the 1998 excavations, however, because of limited access to the feature during 1997 it was considered to be well over 3m in length. It is likely that the excavator recorded some of the palaeochannel deposits as part of this pit. Reinterpretation of this feature in 1998 suggested that it contained yellow brown silts (27 and 28) which were overlain by dark yellow brown silts (37).

Six sherds of middle Iron Age pottery were recovered from the basal fill (27). The only sherd of late Iron Age pottery from the site was found in the upper fill 37. No other finds.

513 Sub circular pit 1.8m x 1.2m with a depth of 0.55m cut by ditch segment **516** (Figure 9). Vertical sides with a flat base. Filled with dark grey brown (512 and 579) and grey (514) silty sands. 514 included burnt sandstone cobbles up to 0.13m in maximum length.

The basal fill (512) contained 6 lithic artefacts, whilst middle Iron Age pottery, bone and 5 lithics were found in the upper fill (514). Thirty-one fragments of bone were found of which 4 were identifiable to species level. Cow, horse and sheep/goat were present. Some of the bone fragments were burnt.

522 Sub-circular pit 0.70m x 0.63m with a depth of 0.22m cut by ditch **756**. The sides were steep and the base concave. The pit contained a single fill of dark grey brown sandy silt.

Seven mammal bones were retrieved from the fill.

549 Rectangular pit of 1.85m x 1.70m with a depth of 0.25m which cut through pit **550**. The sides were vertical and the base flat. Pit **549** was filled with olive brown sandy silt and yellow sand (574) with fine gravels at the base (548). Above these deposits lay 547, a brown silty sand.

One sherd of middle Iron Age pottery was found in the pit, this came from 547. Animal bone was found in deposits 547 and 574 totalling 4 fragments, 3 of which represent medium sized mammals. Three lithic artefacts were found in deposit 548.

550 Oval pit of 1.80m x 1.75m with a depth of 0.10m cut by **549**. Sides were near vertical and the base flat. It contained a single fill (507). This was a dark grey brown sandy silt with occasional large flint and sandstone cobbles up to 0.15m in maximum length, some of which were burnt.

Two sherds of middle Iron Age pottery were recovered from 507. Two animal bones were recovered one of which was from a horse.

569 Sub-circular pit of 2.03mm x 1.90m with a depth of 0.40m and cut by ditch **526** (Figure 10). Sides were steep and the base concave. Filled with a single deposit of dark yellow brown sandy silt (570).

No finds.

583 Oval pit of 0.90m x 0.80m with a depth of 0.20m. The sides were steep, but slightly concave as was the base. The pit had a single fill (582) of dark brown sandy silt with flint cobbles up to 0.12m in maximum length.

Eighteen sherds of middle Iron Age pottery from two fabric types and 1 lithic artefact were recovered. Environmental samples from the deposit contained a few pieces of charcoal, charred grain and seed as well as land snails.

584 Sub-circular pit of 2.30m x 1.95m with a depth of 0.78m which recut pit **628** (Figure 11). The sides were very steep and slightly concave. The base was largely flat, although uneven in patches. The pit contained 9 distinct fills. The basal deposit 600 was a dark yellow brown sandy silt which is overlain by 586 yellow brown sands and gravels and 613 and 614 which were dark yellow brown clayey silts. Above these lie 612 a brown silty clay, 599, a pale yellow clayey silt, 611 dark yellow brown silty sand, 587 a dark yellow brown sandy clayey silts and 585 a dark yellow brown clays and sandy silts. Deposits 586, 613, 614, 599, 611 and 585 contain flint and sandstone cobble of up to 0.15m in maximum length, some of which were burnt. The structure and colour of 585 suggested that much of the sediment had been burnt, although given the fragmented nature of the deposit, firing did not occur at this location.

Middle Iron Age pottery was found throughout the infill sequence. Two sherds were recovered from the basal fill (600) and 14 from 585 and its cleaning layer 539. Twenty-two sherds were retrieved from deposit 587 of which 13 came from one fabric type (Figure 39). Eight fragments of animal bone were found in the basal deposit 600 and a further 12 in 599, 6 from 587 and 6 from 585. Cow and sheep/goat were represented.

The layering within pit **584** suggests that following its abandonment there was a short-lived phase of gradual infilling, represented by deposit 600. This was followed by the rapid deposition of sediments with large burnt cobbles which took place from the northern side of the pit. Animal bone, pottery, and the occasional flint artefact were associated with this deposition. The feature was capped by a layer of burnt clay and cobbles in a sandy silt matrix which appear to have been imported into this area and dumped.

596 Circular pit of 0.65m in diameter and 0.23m in depth. Cut by ditch **516** (Figure 12). Gradual sloping sides with a flat base. Filled with 591, a dark grey brown silty sand.

No finds

598 Circular pit 1.20m in diameter and 0.67m in depth. Cut by ditch **524** (Figure 13). Vertical sides with a concave base. Filled with silty sand (597).

A single sherd of middle Iron Age pottery was recovered alongside 8 fragments of animal bone representing horse, cow and sheep/goat and 1 lithic artefact.

603 Rectangular pit 2.4m x 1.65m with a depth of 0.60m (Figure 14). Steep sided with flat base which was uneven in places. Filled with brown sandy silt at the base (608). Above this lay dark yellow brown (602) and dark grey brown (601) sandy silts. Fill 602 contained frequent cobbles of up to 0.15m in maximum length.

Middle Iron Age pottery and animal bone were found in all deposits whilst lithics were concentrated in the upper deposits. A single sherd was recovered from the basal fill, 608, whilst 602 and 601 contained 4 sherds apiece. Two

fragments of bone were found in fill 608, whilst 10 fragments came from 602 and 9 from 601.

605 Circular pit 1.4m in diameter and 0.23m in depth (Figure 15). The sides were concaved at an angle of about 45°. The base was flat. Pit **605** was filled with dark brown silty sand (604).

No finds.

607 Circular pit of 1.38m in diameter and 0.40m in depth (Figure 16). Sides were almost vertical and the base is flat. **607** was filled with dark yellow brown silty sand (616) at the base with dark black brown silty sand above (606).

Both fills contained animal bone and lithics. Ten fragments of animal bone and 3 lithics were recovered from 606, whilst 616 had two bones from sheep/goat and 2 flint artefacts.

610 Circular pit of 0.84m in diameter and 0.10m in depth. The sides varied greatly between gradual and vertical whilst the base was flat. Pit **610** was filled with a dark grey brown sandy silt (609).

Two sherds of middle Iron Age pottery (Figure 40) and 1 lithic artefact were recovered.

619 Circular pit 3.05m in diameter and 1.7m in depth (Figure 17). Very steep sided with a stepped break of slope on the eastern side of the feature. The base was flat. The basal fills were of yellow brown silty sand (649) and yellow sandy silt (647). These were overlain by yellow brown sandy silt (646) and brown silty sand (648=674). Sandy silts predominated in the lower section of the pit with brown (638 and 686), and yellow brown (687) sediments overlying 648/674. Above these deposits lay the dark grey clayey sands of 637, the light yellow brown silty sands of 627 and the grey brown sandy silts of 673.
Above these sediments lay 626 a dark grey sandy silt where large flint cobbles of over 0.10m in length were common. The section drawings and photographs show large flint cobbles to have been frequent in deposits from 648/674 upwards. Pit **619** was capped with a brown silty sand with occasional flint gravels (618).

The finds were concentrated in the upper half of the sequence with 14 sherds of middle Iron Age pottery in fill 618 and 218 sherds in fill 626. 626 contained the remains of 4 pots. Around 50% of the most complete pot was recovered following the excavation of the entire pit (Figure 41). One sherd from the pit's upper fill (618) conjoined to this pot. A further 12 sherds were found in fill 673 and 1 in fill 627.

A complete half of a single pot was found lying on its side as though it had been broken in position (Figure 18). The pot lay within a slight depression at the junction between its containing deposit 626 and the layer beneath (627).

Animal bone was also concentrated at the top of the sequence. Fifteen fragments of bone were found in 618, 4 fragments from 626 of which 3 were burnt, 6 fragments from 673 , 4 fragments from 627, 2 fragments from 637, 18 fragments from 638 and 9 fragments from 674. Cow, horse sheep/goat were all present. The section shows that these were all fills which contained flint and sandstone cobbles larger than the average size of the local terrace gravels.

In addition to the pot and bone, an Iron knife (SF104; Figure 53) was found in fill 626 which may indicate that this deposit has further significance. Unfortunately, it is difficult to place its exact location within fill 626; one can presume, however, that it was not found with the half pot otherwise it would have been recorded as part of this group. A fragment of riveted iron was found in fill 618 and this may have been part of the same knife.

During the disuse phase the pit appears to have had a complex depositional history. This entailed the dumping of many large flint and sandstone cobbles along side large quantities of pot amongst which was one half-complete vessel which lay in a slight depression at the base of fill 626. The interdigitation of these horizons with no evidence of long standstill periods where the natural course of infilling could dominate suggests that the pit was intentionally backfilled over a short period of time.

623 Circular pit, 1.30m in diameter and 0.56m in depth (Figure 19). Almost vertical, slightly concave sides with a flat base. **623** was filled with brown silty sand (622), grey clayey sand and dark grey brown sandy silt (620). The 620 matrix contained burnt sandstone cobbles up to 0.12m in maximum length.

Thirty-nine sherds of middle Iron Age pottery were found in the upper fill (620) of pit **623**. Although 9 fabric types were identified no refits were recognised. Twenty-five fragments of animal bone were found in 620 and 1 in 621. Cow and sheep/goat were identified. All of the lithic artefacts, 25 in total, were also found in fill 620.
620 filled the upper half of pit 623. The deposits below appear to represent gradual infilling prior to the more rapid deposition of the fills above.

625 Circular pit, 1.63m in diameter and 0.50m in depth (Figure 20). Steep, slightly concave sides with a flat base. **625** was filled with dark grey brown (630) and dark yellow brown (629) silty sand. Above these lay a black (631) and very dark brown (624) silty sandy clay both of which contained charcoal.

The only finds from this pit lay in the upper fill 624. Ten sherds of middle Iron Age pottery and 27 fragments of animal bone were recovered. Cow, horse and sheep/goat were present.

628 Sub-circular pit about 2.45m x 2.30m with a depth of 0.78m, re-cut by **584** (Figure 11). Steep sided, almost vertical with slightly concave base. **628** was filled with pale brown sandy clayey silts.

No finds were recovered.

632 Circular pit 1.07m in diameter and 0.41m in depth (Figure 21). Almost vertical sided with a flat base. **632** was filled with dark yellow brown clayey silty sands (656 and 655). The basal fill, 656, contained flint cobbles up to 0.13m in maximum length, whilst the stones in the upper deposit 655 were smaller.

Middle Iron Age pottery was found in abundance in both deposits. Twenty-six sherds from 655 and 27 from 656 (Figure 44). 655 and 656 contain 15 sherds from a single fabric although probably representing more than 1 vessel. No refits were noted. Twenty four fragments of animal bone were found representing cow and sheep/goat. Lithics were sparse with 1 artefact from each deposit.

633 Circular pit of 1.04m in diameter and 0.62m in depth (Figure 22). Very steep, almost vertical sides and a slightly concave base. **633** was filled with dark brown (659), dark yellow brown (663), dark grey brown (658) and yellow brown (657)

clayey silty sand. The basal fill (659) contained cobbles of limestone, flint and sandstone up to 0.13m in maximum length. One limestone cobble was recorded as 0.25m in length and was burnt. Fill 657 also contained a large cobble 0.16m in length.

The largest collection of middle Iron Age pottery within this feature was found within the basal fill (659). 31 sherds of one fabric were present. 80% of the rim of a single pot was recovered following the complete excavation of the pit. Base sherds were absent. A rim with finger nail impressions was also found in 659 and is illustrated (Figure 45). Four sherds were found in fills 658 and 657 and represent the remains of at least three other pots.

Fill 659 contained 20 fragments of animal bone representing cow and sheep/goat. Single fragments of bone were also recovered from 657 and 658 but were undiagnostic. Four lithic artefacts were present in 658.

A single environmental sample was taken from from fill 658. Small amounts of charcoal, charred seed and grain were recovered. Aquatic snails and ostracods were also identified.

634 Circular pit of 1.11m x 0.23m (Figure 23). Sides were uneven and gradually dipping at about 45°. The base was flat. **634** was filled with dark yellow brown clayey silty sand (660).

No Finds.

636 Sub-circular pit of 0.80m in diameter and 0.22m in depth. Steep sides, about 80°, with a flat base. **636** was filled with 635, a dark yellow brown sandy clayey silt with flint and sandstone cobbles up to 0.90m in length.

Six sherds of middle Iron Age pottery, one of which is illustrated (Figure 47), and a single fragment of long bone were recovered. A further 10 sherds of pottery were retrieved from the surface of the feature during initial cleaning, one illustrated (Figure 46).

641 Rectangular pit 2.3m x 1.3m with a depth of 0.55m. Vertical sides and a slightly irregular, but largely flat base. The basal fill (640) was a yellow brown sandy silt with frequent gravel of less than 0.08m in maximum length. The upper half of the infill sequence contained a similar deposit with a reduced amount of gravels. Charcoal flecks were noted as being frequent.

No finds were retrieved from the lower half of the sequence, however 16 sherds of middle Iron Age pottery were recovered from 639 (Figure 48). Six fabric groups were identified and included a sherd which had been scored (Figure 48). Sixteen fragments of animal bone were recovered which represented cow and sheep/goat some of which may come from the same individual. In addition a single claw bone from a white-tailed eagle was found in the environmental sample. One lithic artefact was present.
An environmental sample from 639 contained charcoal, charred grain and seed. Snails were also present.

642 Circular pit 1.30m in diameter and 0.73m in depth (Figure 24). Slightly concave, almost vertical sides with a flat base. The two basal fills both were a brown clayey sand (622) and a light grey brown silty sand (662); both were virtually stoneless. Above these lay a dark yellow brown silty sand (645) and two fills of brown silty sand (661 and 643). The matrix of 643 only is recorded as containing large flint cobbles of over 0.10m in maximum length.

Middle Iron Age pottery was recovered from fills 645 and 643. Two sherds were found in 645 alongside 2 lithic artefacts. A further 11 sherds were found in 643 where they were associated with a single fragment of animal bone from a cow and 6 lithic artefacts.

651 Circular pit of 1.30m x 0.42m. Slightly concave, vertical sides with a flat base. Pit **651** had a primary fill of dark yellow brown silty sand with gravel, 702. The majority of the pit was filled with 650, a very dark grey brown silty sand with flint and stone cobbles of over 0.10m in maximum length.

No finds were recovered from 702, however, 42 sherds of middle Iron Age pottery were recovered from 650. Of these 34 sherds belonged to one fabric and 6 sherds from a single vessel. Fourteen fragments of animal bone representing, cow, pig and sheep were identified. Three lithics artefacts were also found.

The record shows that the occurrence of this large quantity of pot was dissimilar from those found in **711** and **619**, where a large portion of a single vessel was found together. In 650 all of the pottery, including those sherds coming from the same vessel, was spread throughout the deposit.

Fill 702 suggests that a period of side wall erosion and gradual silting up of the pit had started prior to the deposition of 650. This was probably not an extended period of time as the profile of 702 shows that the deposit had not spread across the entire base of the pit.

652 Circular pit 2.00m in diameter and 0.43m in depth. Sides were vertical and the base concave. **652** was filled with a grey brown silty clay (669) and a brown silty sand (668) which formed the basal fill of the pit. The upper half of the sequence was filled with dark grey brown silty sand with large flint cobbles (617).

Finds of pottery and bone were only recovered from the upper fill 617 and its cleaning layer 532. Thirteen sherds of middle Iron Age pottery were recovered, representing 3 fabrics. One burnished sherd and a flat base sherd have been illustrated (Figure 49). Six large mammal bones were also recovered from fill 617.

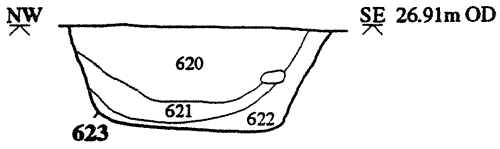
654 Sub-circular to oval pit of 1.74m in maximum length and 0.35m in depth. Steep, slightly concave sides with a flat base. **654** was filled with a primary deposit of brown clayey silt (664) which was overlain by dark grey brown sandy clay with frequent large flint cobbles (653).

Middle Iron Age pottery and animal bone were recovered from the upper fill 653. Five sherds of pottery and 7 fragments of bone were retrieved. Cow and a medium size mammal were represented in the bone assemblage.

667 Circular pit 1.05m in diameter and 0.20m in depth (Figure 25). Steep sided, although concave, with a flat base. **667** had a single fill 666, a silty sand with flint gravel up to 0.08m in length.

Three sherds of middle Iron Age pottery and 4 animal bones representing horse and a medium size mammal were recovered.

Environmental sample identified the presence of charcoal, charred grain and seed as well as snails and the remains of frog/toad.



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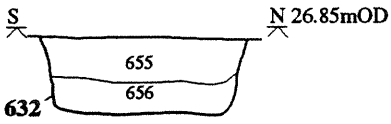

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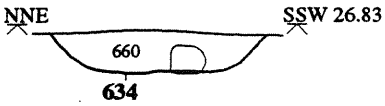

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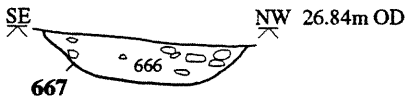

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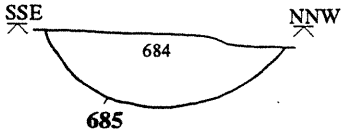

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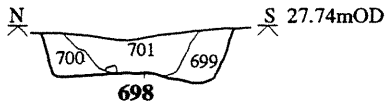

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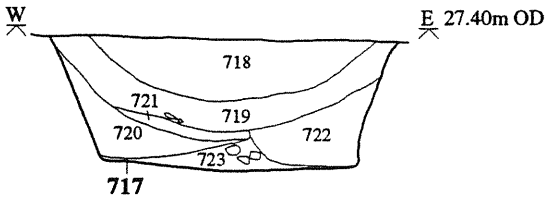

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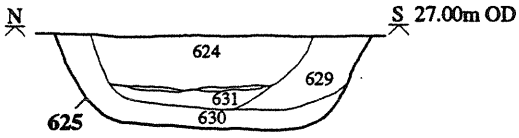

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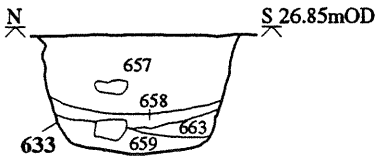

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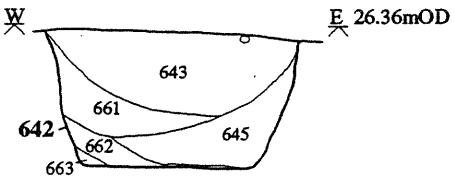
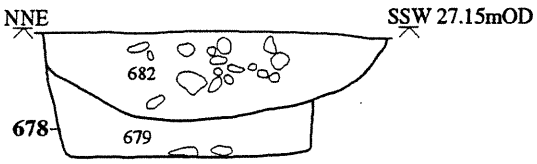


Figure 24



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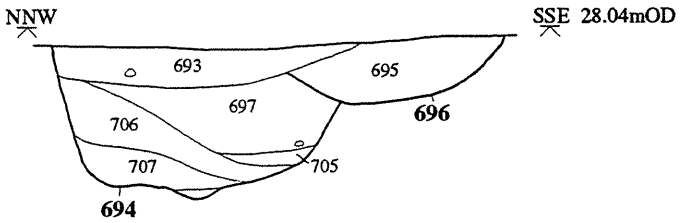

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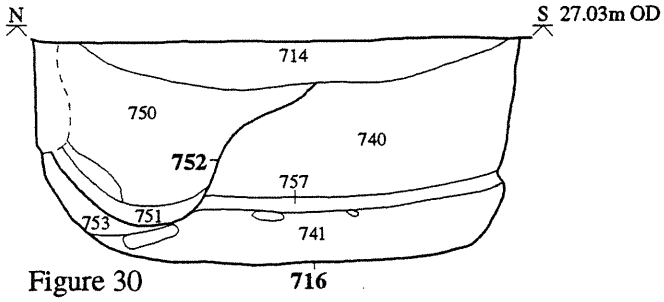

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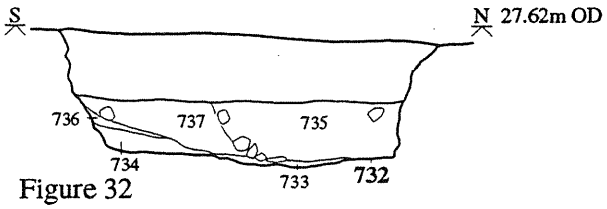


Figure 32

***Figures 19-32** Sections of Iron Age pits*

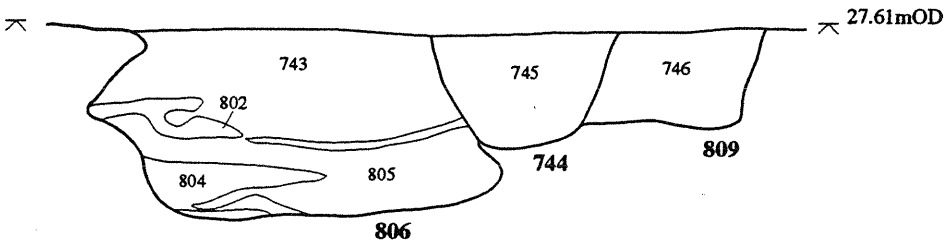
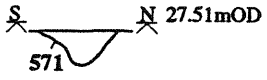


Figure 33



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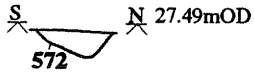

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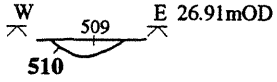

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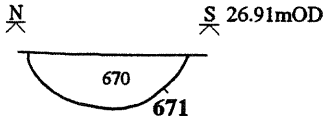

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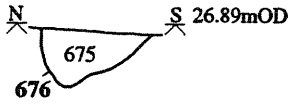


Figure 38

Figures 33-38 Sections of Iron Age pits

677 Circular pit 2.1m in diameter and 0.85m in length. Very steep concave sides, near vertical, with a flat base. The basal sediments were composed of dark yellow brown silty sand (639) and yellow brown sands (730, 729, and 728). These were overlain by yellow brown silty sand with gravel (727), dark yellow brown silty sand (720), yellow sand with fine gravel (725), olive brown sandy silt (724) and capped with dark yellow brown sandy silt (672). Fill 727 contained large flint cobbles up to 0.15m in length with occasional charcoal flecks, otherwise the grave was less than 0.10m and usually less than 0.03m in length.

No pottery was recovered, but, animal bone was present in 728, 727, and 672. One fragment of cow bone was found in 728. Four fragments of bone including those of a large mammal were represented in 727 whilst 672 contained 9 fragments, 6 of which may have come from the same cow. A medium-sized mammal was also represented.

678 Circular pit 1.43m in diameter and 0.65m in depth (Figure 26) Steep, almost vertical sided with a flat base. **678** was filled with a basal fill of dark yellow brown clayey silty sands with the occasional cobble up to 0.15m in length (679). This was overlain by 682, a dark yellow brown clayey silty sand with frequent large cobbles of up to 0.15 m in length. The section drawings suggest that 682 may have in fact been the fill of a separate later pit.

Apart from a single lithic artefact in 679 all of the finds were recovered from 682. Finds from 682 included 3 sherds of middle Iron Age pottery and thirteen fragments of animal bone which included the bones of a large mammal.

685 Circular pit 1.23m in diameter and 0.40m in depth (Figure 27) Concaved sides dipping at about 60° to a concave base. **685** was filled with dark brown clayey silty sand (684) with flint inclusions of up to 0.09m in length.

The only finds from the feature were 11 fragments of animal bone representing cow and sheep/goat.

688 Circular pit 1.67m in diameter 0.71m in depth. Steep sided, almost vertical, with a flat slightly uneven base. 688 was filled with primary deposits of yellow brown (689) and dark yellow (696) brown sandy silt. These were followed by

691 the main basal fill and 692 which fills the upper half of the pit. Both are dark yellow brown sandy silts.

No pottery was found, however small quantities of lithic artefacts were recovered from 691 and 692. Twenty-four fragments of animal bone representing cow, including a calf, and sheep/goat were recovered from 692. Some of the bone had been gnawed prior to deposition within the pit.

694 Circular pit 1.60m x 0.75m cut by **696** (Figure 28). Steep almost vertical sided with a slightly concave base. **694** was filled with brown to yellow brown silty sand (707 and 706). These are overlain by brown (705) and yellow brown (697) silty sand.

The only finds from this pit were two sherds of middle Iron Age pottery which were recovered from fill 697.

The section drawings and context descriptions suggest that initial infilling of the pit was dominated by sediment arriving from the northern side of the feature; this suggests intentional infilling from this side of the pit.

696 Circular pit 1.65m x 0.33m which cut into the southern side of pit **694** (Figure 28). Sides were steep and slightly concave, the base was also slightly concave. Pit **696** was filled with 695 a brown silty sand. This was overlain in turn by 693 a dark yellow brown silty sand.

The only find was a single flint artefact found in layer 693.

The section appears to indicate that pit **696** was set into pit **694** before the latter had been entirely infilled. It is only with the addition of deposit 693 that both features are entirely infilled. An alternative, and most likely scenario was that a shallow scoop was taken out of the top of layers 697 and 695 indicating the presence of a third feature within this area, however, this was not recognised at the time of excavation.

698 Circular pit 0.98m in diameter and 0.23m in depth (Figure 29). Very steep, almost vertical sides with a slightly convex base. **698** was filled with primary fills of dark yellow brown sandy silt (699 and 700). These were overlain by a dark yellow brown sandy silt (701) with a higher percentage of gravels than found in fills 699 and 700.

The only finds were 2 flint artefacts found in fill 699.

704 Circular pit 1.06m in diameter and 0.12m in depth. The sides sloped down at about 30° to a flat base. **704** was filled with a light olive brown silty sand (703).

Twenty-eight fragments of animal bone were recovered representing cow and pig. No other finds.

716 Rectangular pit 2.5m x 1.38m with a depth of 1.2m cut by pit **752** and ditch **756** (Figure 30). Sides were vertical becoming concave at the base. Base was flat. **716** had a basal fill of grey silty clay (741), overlain by grey brown clayey sand (757), black clayey silt (715)and brown sandy silt (740).

A single sherd of middle Iron Age pottery was recovered from the basal fill 741 alongside 7 lithic artefacts. A single fragment of animal bone identified as sheep/goat was found in fill 715.

717 Circular pit 2.00m in diameter and 0.70m in depth (Figure 31). Steep sided with a flat base. **717** had a basal fill of olive brown silty sand (723), overlain by dark yellow brown silty sands (720, 721/722, 719, and 718). The section drawings show a coarse component of flint gravels not mentioned in the written record. The drawings suggest that the flint cobbles are in the main less than 0.10m in maximum length.

Small quantities of middle Iron Age pottery were recovered from the basal (723) and tertiary (718) fills. Lithics are sparse with two items found in the upper fill. Thirty fragments of cow and a medium sized mammal bone were recovered from pit fill 718. A further 4 fragments were recovered from 721.

732 Circular pit 2.00m in diameter and 0.70m in depth (Figure 32). Steep sided with a slightly uneven base. Basal fills consisted of yellow brown sandy silts with gravels of up to 0.10m in length (733 and 734). These were overlain by yellow brown (736) and dark yellow brown (735/737) sandy silts. The upper half of the pit was filled with brown sandy silt with large flint cobbles up to 0.22m in length (738). The section drawings when combined with the written record indicate that all fills including the basal deposits were rich in large flint cobbles over 0.10m in length.

The majority of the middle Iron Age pottery was found in the final fill 738. A further 8 sherds were found in the deposit below and a single base sherd from the basal fill 733 (Figure 50). Five fragments of animal bone representing large and medium size mammals were recovered from fills 735/737 and 738.

The second knife (SF101; Figure 52) was found in the basal fill of the pit (733). The position of this fill, which is central to the pit, suggested an initial covering of the knife prior to final burial by subsequent back fill deposits.

742 Circular pit described as 3.40m in diameter and 1.00m in depth, however, this probably represents two pits cut by ditch **744** (Figure 33). **742** would then be 1.50m x 1.00m (see **809** for second pit) with steep irregular sides which were undercut in at least one place. **742** had a primary fill of yellow brown sandy silt (806) which was overlain by a series of interdigitating layers. 804 and 802 were pale yellow silts, whilst 805 and 803 were dark yellow brown sandy silts. These were in turn overlain by 743 a comparatively homogenous deposit of brown silty sand which filled the upper half of the pit. Frequent coarse gravels occurred throughout the sequence.

Six sherds of middle Iron Age pottery were recovered from the upper fill 743 and a further 4 sherds from 805. These same fills contained the animal bone. 743 contained 34 fragments of bone from which cow and sheep/goat were identified. Fifteen fragments which included cow, horse and sheep/goat bones were found in 805.

749 Circular pit 1.50m in diameter and 0.72m in depth. Vertical sides with a flat base. **749** was filled with dark grey brown sandy silts (801 and 800) and dark grey brown silty clays (748 and 747). The tertiary deposit was of brown sandy silty clay with gravels (739).

All of the middle Iron Age pottery and the animal bone were recovered from the upper fill (739). Twelve sherds of pottery were found of which 11 were from one fabric and include one sherd with internal food residues. Eighteen fragments of animal bone were recovered from which sheep/goat and large mammal bones were identified. Chop marks and burnt bones were also present.

752 Circular pit 1.30m in diameter and 1.10m in depth which cut into the fills of 716 (Figure 30). Steep, almost vertical concave sides with a concave base. **752** had basal fills of dark grey brown (753) and dark grey (751) silty clay. Above these lay dark grey brown silty clays (750 and 714). Fill 750, which filled about three quarters of the pit, contained frequent flint cobbles of about 0.07m in length.

Small quantities of pottery were found in all fills except 750. Three sherds in 714, 2 in 751 and 1 from 753. 714 contained 6 animal bones, 7 fragments were found in 751 and a further fragment in 753; cow and sheep/goat were identified.

The occurrence of the upper fill (714) is similar to 693 the terminal fill to pits **694** and **696**. This presumably indicates a similar type of activity with either the features cut as interpreted by the excavator or a scoop taken out of the top of both features and into which the final fills were deposited.

809 Ovate pit of 2.80m x >0.90m with a depth of 0.50m (Figure 33). Steep sided, almost vertical with a flat base. **809** was filled with 746, a dark yellow brown sandy silt.

A single sherd of middle Iron Age pottery and 2 animal bones were recovered, 1 of them from a horse.

Bronze Age and Iron Age Post-holes

Four groups of post-holes were identified and which lay in a stratigraphic position which would suggest that they were either Bronze or middle Iron Age in date. No specific dating evidence was found in any of the post-holes and therefore their associations remains ambiguous. None of these groups formed large agglomerations which could be clearly identified as buildings.

Group 1:
Group of 3 post-holes which form a slight arc.

571 Sub-ovate post-hole 0.46m x 0.39m with a depth of 0.18m (Figure 34). Steep sided with a concave base. **571** was filled with 576, a black and dark brown silty sand with burnt flint gravels.

No finds.

572 Sub-ovate post-hole 0.53m x 0.29m with a depth of 0.20m (Figure 35). Steep sided, stepped on the northern and southern sides straight on the eastern where the feature was at its deepest. **572** was filled with black and dark brown sandy silt with burnt flint gravels (577).

No finds.

573 Ovate post-hole 0.47m x 0.38m with a depth of 0.18m. Steep sided with a broad concave base. **573** was filled with black and dark brown sandy silt with burnt flint gravels (578).
No finds.

A second group lay central to the northern area of the site. Here three post-holes lay in a line with a similar single unexcavated post-hole 8m to the north.

510 Sub-circular post-hole 0.37m in diameter with a depth of 0.11m (Figure 36). Steep sided with a concave base. Filled with dark brown sandy silt (509)

No finds.

671 Circular post-hole of 0.42m in diameter with a depth of 0.15m (Figure 37). Steep sided with a concave base. Filled with brown silty sand (670).

No finds.

676 Circular post-hole 0.56m x 0.30m (Figure 38). Steep sided, stepped on the south side. Concave base. Filled with brown silty sand (675).

Two flint artefacts were recovered.

A third group of three post-holes were located in the northwestern corner of the trench. These formed an L-shape set at 4m apart. These were not excavated. Other potential post-holes in the area proved to be natural.

A further 4 post-holes were identified scattered through the area of which 2 were excavated.

30 Circular post-hole of 0.20 x 0.34m. vertical sides with a concave base cut by pit **26**. Filled with dark yellow brown and silty clay (29).

No finds.

595 Oval post-hole of 0.40 x 0.35 with a depth of 0.08m. Steep sided with a concave base. Filled with brown sandy silt.

No finds.

Middle Iron Age Summary

The middle Iron Age remains indicate an intense period of activity at this site. The few traces of grain from the environmental samples suggest that the pits were originally constructed for storage. As the pits intercut and have a varied infill regime this indicates that not all pits were in-use at one time and suggests that individual pits were replaced over a period of time. Recutting of the pits suggests different levels of abandonment of the site with either parts of the site or individual pits, as indicated by the infilling and feature collapse of **742,** allowed to infill naturally. A final phase of infilling occurred within open or partly infilled pits across the whole site and was dominated by the rapid input of burnt flint and limestone cobbles, pottery and animal bone in quantities not seen in the natural sedimentation record observed in many of the earlier pits. This phase is associated with the placement of pottery and knives which suggest a ritual component to the site.

Other than in the type of sediments infilling the upper fills of pits, there is no evidence for settlement in this area. The few structures which are marked by post-holes would seem to suggest small scale activities associated with the pits. Many of the alignments may indicate the presence of fence boundaries or wind breaks with the occasional four-post structure.

Roman and post-Roman ditches and boundary posts.

All of the ditches within the excavation area cut through the later phases of alluviation and therefore post-date the Iron Age pit complex.

Two ditch systems were identified within the excavation area. Those which ran with the contours and along the river course, and those which ran north-south upslope. Neither system corresponds with the earthworks surviving in the woods which run along the course of the river. Both sets of ditches are therefore presumed to predate the park landscaping.

The first of the ditch systems approximately follows the course of the 27m OD contour and the southernmost extent of the last phase of alluviation. The ditch appears to be segmented in the centre of the trench, however, it seems to shallow rather than terminate and was traced beyond pit **716** (Figure 3). If the interruption was real the system allowed access to the riverside and did not perform a drainage function.

The ditch system in the western arm of the excavation area was also thought to be part of this system as it also bounds the areas of high and low ground at about 27m OD. Dating evidence from **524** is also consistent with considering **516/518/524** as part of the **756** ditch system.

516 Ditch 0.55m in width and 0.12m in depth which cut the fills of pits **513** and **596** (Figure 12). Steep concave sides with a flat base. **516** was filled with a brown silty sand (515).

No finds.

518 Ditch 0.54m wide and 0.12m deep. Steep concave sides with a flat base. **518** was filled with a brown silty sand (517).

One sherd of middle Iron Age pottery and 5 lithic artefacts were found in the fill.

524 Ditch 0.75m in width and 0.22m in depth which cuts the fills of **598** (Figure 13). Steep concave sides with a flat base. **524** was filled with a dark grey brown sandy silt (523).

One sherd of Roman pottery and 1 lithic artefact were found in the ditch fill.

516 had a complex association with a series of post and stake holes which lay along its course (Figure 12). **516** cut the post-holes for a series of posts which extended southwards under the southern edge of the trench. The posts-holes (**552, 554** and **556**) and their fills were at some later point cut by five stakeholes (**558, 560, 562, 564** and **592**) which replicated the course of the post alignment. Given the close association of these features it is quite likely that ditch respects this alignment and was contemporary with at least one of the post/stake boundary phases. The post-holes appear in section to cut each other which may suggest the replacement of posts. Alternatively, given their alignment and the apparent extension of this alignment beneath the baulk this could equally represent the mode of construction where one post-hole was dug and the post set prior to the excavation of the adjacent post. Why posts were required at this point and at no other is not clear from the few traces found during the excavation.

552 Circular post-hole 0.70m in diameter and 0.20m in depth cuts 554 (Figure 12). Concave sides and base. **552** was filled with brown clayey sand (580) and silty clay (551).

No finds

554 Circular post-hole 0.75m in diameter and 0.22m in depth cut by **552** and **556**. Concave sides and base. **554** was filled with brown silty clay (553).

No finds.

556 Circular post-hole 0.90 in diameter and 0.08m in depth which cuts **554**. Concave sides and base. **556** is filled with yellow brown silty clay (555).

No finds.

Five stake holes (**558, 560, 562, 564** and **592**) were found to cut the post-holes presumably after the posts had been removed. The stake holes were all filled with yellow brown silty sand (559, 550, 561, 563 and 592).

No finds.

Within the main part of the trench two segments were excavated through the contour ditch system, one on either side of the interruption noted within the main trench.

65 Ditch of about 0.80m in width and 0.60m in depth which cut pit **65** (Figure 8). The sides were steep, slightly concave with a concave base. The ditch was filled with yellow brown (53) and dark yellow brown (50) sandy clays. These were overlain by dark yellow brown silts (101).
No finds.

756 Ditch 1.10m in width and 0.35m in depth. Concave sides with v-shaped base. **756** was with filled brown (755) and dark grey brown (754) sandy silts.

Four segments were excavated through the north-south orientated ditches which respect the slope of the land and are therefore presumed to represent drainage activities. These ditches cut the contour ditch and where later pottery was found within the fills of the north-south ditches, it was of a post-Medieval date.

12/19 Ditch 0.90m in width and 0.30m in depth which cut pit **48** (Figure 8). Steep concave and convex sides with a flat base, Both excavated segments were filled with brown to dark grey brown sandy silt with gravels of less than 0.04m in length.

Finds included a single sherd of post-medieval pottery alongside later Mesolithic flint bladelets and microliths.

526 Ditch 0.70m in width and 0.37m in depth which cut pit **569** (Figure 10). Steep concave sides with a flat base. **526** was filled with brown sandy silts.

No finds.

744 Ditch 1.00m wide and 0.60m in depth which cuts pit **742** (Figure 33). Steep concave sides with a concave base. **744** was filled with a dark yellowish brown sandy silt (745).

Twenty-seven sherds of middle Iron Age pottery were found in fill 745 which included fragments of 2 bases.

Ditch **744** cut through both a middle Iron Age pit (**742**)and the alluvium which runs alongside the river. It is therefore likely that the pottery within it was redeposited.

Roman to post-Medieval summary

two phases of ditch excavation post-date the the Iron Age pits and the period of alluviation. The 27m contour ditch may be of Roman date and seems to have acted as a boundary along the course of the river. The north-south ditches appear to have a different purpose which was related to drainage. The finds suggest that at least one of these ditches survived into the post-medieval period.

Pottery Summary and Conclusions by Dr Paul Sealey

The excavations at Abington Park produced a small but important assemblage of middle Iron Age pottery. It was not contaminated by earlier material and the abandonment of the site in the Iron Age meant that the character of the pottery of the period is not obscured by subsequent redeposition. Typologically the pottery is quite distinct from the major groups from the neighbouring sites of Wandlebury and Linton. These differences can only be explained by a difference in date. The fabrics at Abington Park are sand-tempered and assign the site to the middle Iron Age. Its pottery defines a plainware style zone for the south Cambridgeshire middle Iron Age called the Abington-Duxford style. Such pottery was current in the period centred on *c.*350-50 BC and has been reported elsewhere in the county from Abington Pigotts, Duxford and Foxton. Although most of the contexts with such pottery at Abington Park only had small and abraded sherds, in terms of sherd count and sherd weight most of the pottery came from two pits. One of them had a placed deposit of large stacked sherds from a burnished bowl.

Animal Bone Summary and Conclusions by Ian Baxter

With such a small assemblage little can be said regarding the husbandry regime of the settlement associated with the pits. Some form of mixed farming was practised and cattle were the most important stock animals both in terms of numbers and meat yield. The cattle were small animals with very small horns typical of Iron Age sites. Sheep were next in importance and many were probably slaughtered before they reached two years, although a significant number were kept beyond this age as breeding stock and perhaps for wool and milk. Pigs were also kept in wooded areas. Horses were used as mounts and pack animals. Red deer were occasionally hunted for meat and skins and white-tailed eagles fished in the nearby River Granta. The partially dismembered skeleton of a mature ewe in one pit and the talon of a white-tailed eagle in another provide possible evidence for ritual activity.

Metallographic Analysis Summary and Conclusions by Brian Gilmour

Two knives were recovered from middle Iron Age pits **619** and **732**. The shorter, two-edged knife seems to be the more typical product of low carbon, bloomery iron production, from either where the furnace conditions have been insufficiently reducing to produce more than a small proportion of steel in the bloom, or where the steel parts of a more highly reduced iron bloom have been separated and used for something else, leaving the low carbon iron used in this knife. With the current state of knowledge it is difficult to say which is the most likely. What can be said is that a blade with a cross-sectional appearance like this

is very unlikely to have been produced by secondary carburisation of plain bloomery iron.
Although the longer knife is very different in its final structure, it is almost certainly also just made of a single piece of bloomery metal. In this case, however, the intention does seem to have been to produce a steel although the attempt appears not to have been all that successful, probably owing to the use of an iron ore with too much phosphorus in it.

If the use of steel for the cutting edges is a yardstick then neither of the knife blades examined here are top quality, although the way they have been made, as well as the choice of materials, hardly suggests poor quality either. Both knives can perhaps be best judged as medium quality products of an industry which was probably much more advanced during the Iron Age than it is generally given credit for.

Lithics Summary and Conclusions by Twigs Way.

A total of 237 flint artefacts were recovered from the main excavation area. In the majority of cases densities were low with only 15 contexts containing 5 or more flint artefacts many of which are incidental to the pit fills.

The assemblage is predominantly of a Neolithic/early Bronze Age date with some Iron Age material represented by coarse hard hammer flakes. Two Palaeolithic pieces and a late Mesolithic core were recovered. A small collection of mesolithic bladelets were found in context 620 where they were in association with middle Iron Age pottery.

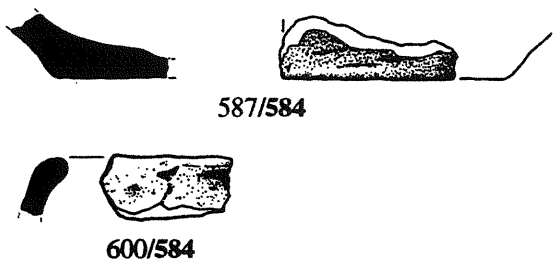
Of the 237 pieces collected, 10% were tools or retouched pieces. The assemblage as a whole was dominated by flakes on flint sourced from the river gravels. The average size of flake, excluding the palaeolithic blades, was below 0.06m.

The majority of tools are late Neolithic/early Bronze Age and include awls, burins, arrowhead and scrapers. No Mesolithic tools were identified, unlike the earlier evaluations, which would seem to suggest that this site was dominated by Neolithic and Bronze Age activities. Mesolithic occupation seems to have occured away from the site of the Iron Age pits and therefore Mesolithic artefacts have not so readily become incorporated into the pit fills.

7 DISCUSSION

This report paints a complex picture of a small incomplete site where the intentional placement of pottery, knives and animal bones occurred within specific features and deposits during the middle to late Iron Age.

The main site activities are discussed below in period order and this discussion draws on both the results of these excavations and those undertaken by other investigators in the surrounding areas. The discussion will concentrate on the periods of activity encountered within the excavation area and does not attempt to give a complete model of landscape evolution along the River Granta.



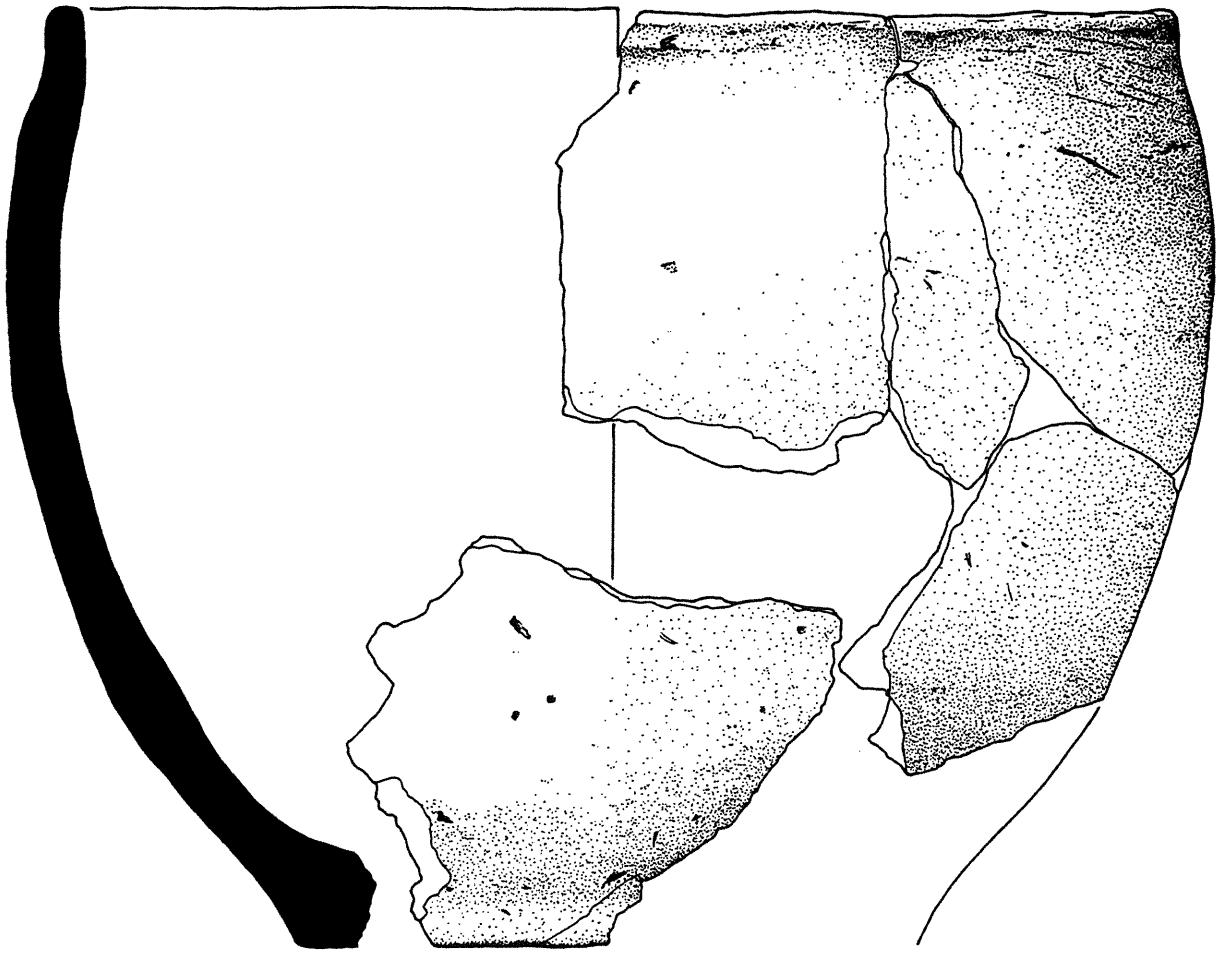
587/584

600/584

Figure 39

609/610

Figure 40



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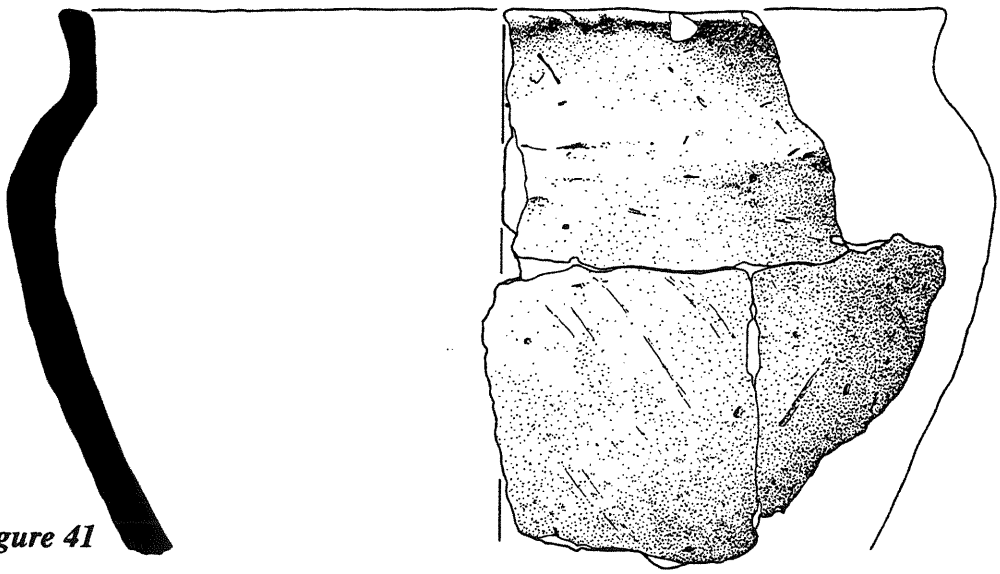
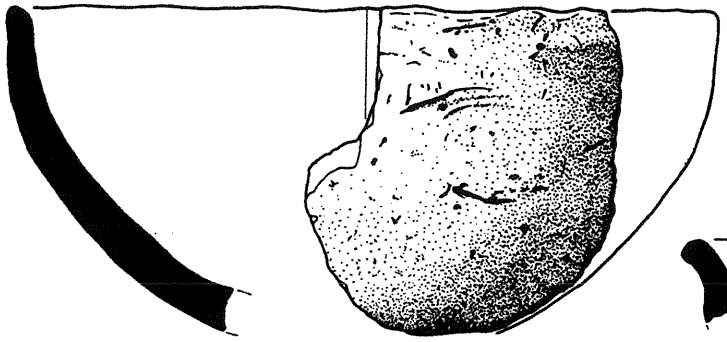


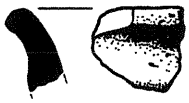
626/619

Figure 41

Figures 39-41 *Pottery illustrations are at 1:2 and are referenced by* context number/**cut number**



627/**619**

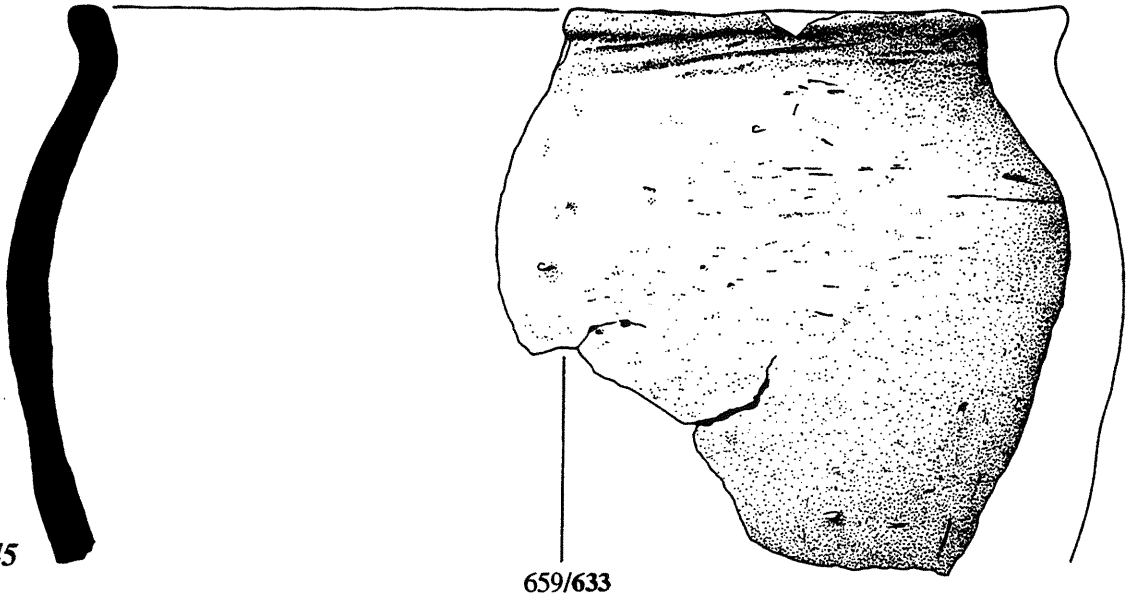


620/**623**

Figure 42

656/**632**

Figure 44

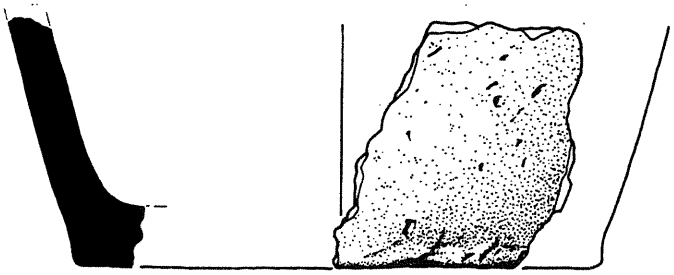


659/**633**

Figure 45

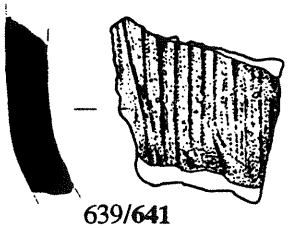
540/**635**

Figure 46

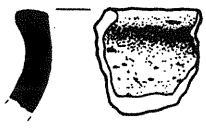


650/**636**

Figure 47

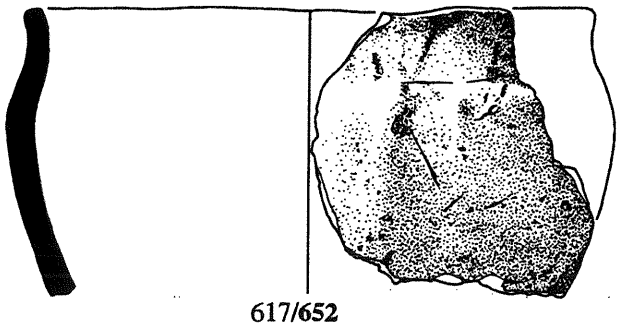


639/**641**



639/**641**

Figure 48



617/**652**

617/**652**

617/**652**

Figure 49

Figures 42-49 *Iron Age pottery. Illustrations are at 1:2 and are referenced by* context number/**cut number**

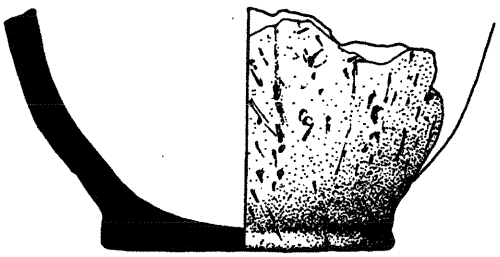


Figure 50

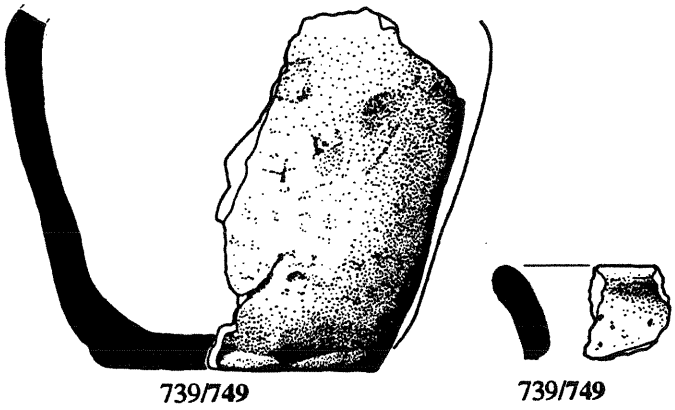


Figure 51

Figures 50-51 *Iron Age pottery. Illustrations are at 1:2 and are referenced by* context number/**cut number**

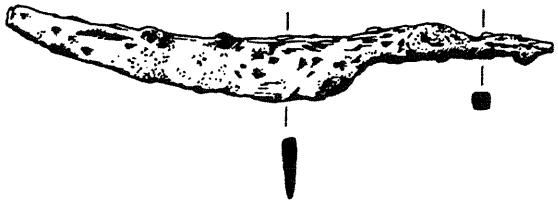


Figure 52 *Iron Age iron knife 733/732(SF 101) 1:2*

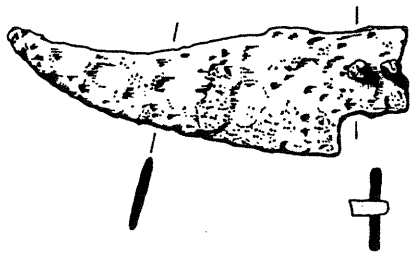


Figure 53 *Iron Age iron knife 626/619(SF 105) 1:2*

Early Prehistory (Palaeolithic, Mesolithic and Neolithic).

Pollen analysis undertaken on the channel sediments indicates that the early Holocene landscape along the River Granta was grassland.

Traces of Palaeolithic and Mesolithic activity are indicated by the presence of flint artefacts including flint blades and a bladelet core. However, the lithic assemblage is dominated by Neolithic/early Bronze Age activity.

The identification of early Prehistoric activity had originally been made during the course of the first stage of evaluation (Cooper and Hinman 1997) and was corroborated by later fieldwalking and test pitting. These works showed that the flint working was concentrated in the vicinity of the excavation area and that a large part of the assemblage was either at the ploughsoil surface or within later archaeological features.

On the assumption that there has been little plough truncation to the Iron Age pits, which were protected from Roman medieval and modern ploughing by a cover of alluvium, one could suggest that there is a differentiation between the two lithic assemblages. This may have resulted from the systematic discard of certain knapped assemblages into pits. Others, those surviving in the topsoil, were knapped onto the former landsurface and were not subsequently swept up for disposal. Large quantities of lithic artefacts were absent from many of the features and where large numbers were present they were commonly associated with middle Iron Age pottery and their deposition is therefore likely to be Iron Age in date. It is likely that there was a slow gradual release of lithic artefacts from the former landsurfaces into the pits as the latter were cut. Therefore the presence of many of the lithic artefacts within pits may have much to do with the location of the pits in relation to earlier knapping areas. Lithic discard within pits does not appear to be common until the middle Iron Age and is associated with the specific events of that period. This suggests that many of the flint artefacts are residual and unrelated to the features within which they are contained.

Many of the earlier lithics, particularly those distinguishable as of Mesolithic, Neolithic or early Bronze Age date were found close to the palaeochannel. Although the channel had probably been dry for sometime it would appear that this feature had some appeal to the occupiers of this landscape. This concentration of prehistoric activity is a very different scenario from that which occurred further north along the River Granta. At Bourn Bridge in Pampisford, where the results of fieldwalking show artefact yields per ha. are comparable with those at Abington (Abington 12 per ha, Pampisford 11 per ha.) activity areas are interpreted as individual camp-style occupations which spread across the whole of the 10 ha investigated (Evans 1993). The Abington site presumably reflects a single camp site within a landscape which was less intensely utilised.

These numbers compare little with the Cambridge University's work at Hinxton Quarry and Duxford where respectively about 160 and 26 lithic artefacts per ha were recovered (Evans 1993). The relative quantities of artefacts may provide an indication of the different activities undertaken at each site, the importance of each area of land, or the number of return visits made to a site. This may also indicate the relative importance of the resources available along stretches of the same or different river systems.

The results would seem to indicate that at least at certain times during the early prehistoric period activity was focused along the course of the Granta River at Abington and that the population had a high degree of mobility within the landscape. The Abington site like those further along the River Granta probably represents one or more temporary camp style occupations although here an aspect of the site, which may have been associated with access to the river along the palaeochannel, made the site preferential for later activities and more permanent occupation.

Bronze Age.

Bronze Age activity in the development area is marked by the presence of lithics and Bronze Age pottery. Although the majority of the pits are discussed under the middle Iron Age because of the quantities of pottery found within them or their similarity in form to the securely dated Iron Age pits, it is feasible that some of the pits which contained no pottery may belong to the Bronze Age.

Early/middle and late Bronze Age pottery was found within pits. The early pottery was found within irregular pits which the excavators thought may have been natural. The lithic component of the assemblage still attests to this phase of activity occurring within the excavation area, although the nature of the activities

involved remains unclear. It is likely to have consisted of small scale pitting, and tool manufacture and could be a continuation of earlier activity modes.

The late Bronze Age pottery that was found in pit **711** and suffers from similar interpretational problems as encountered within the middle Iron Age assemblage. The similarities between the mode of discard seen in this late Bronze Age pit and those of the Iron Age may provide a link to understanding both the assemblages.

Pit **711** seems to have been partially infilled at the time of the deposition of the pottery. The pottery dips into the pit in a way which suggests that it was tipped into one side of the pit (Figure 5). The position suggests that the pottery was tipped, rather than placed. Given the quantity of pottery either event would have had to have been intentional. One of the pots present, although incomplete at the time of disposal had retained much of its original form and appears to have finally collapsed following the deposition of material above. A similar phenomenon can be seen in the structure of pit **619**. The infill regime of the pit is dissimilar from the middle Iron Age equivalent as the assemblage is poor in other cultural components. Malim identifies the separation of pottery and bone in placed deposits at the early Iron Age site of Barrington (Malim 1997). It is possible that a similar selection has occurred here although the small quantities of animal bone which have been recovered from the pit suggest otherwise and the mixture of materials within the pit is more in keeping with the rites of termination in evidence in the middle Iron Age.

Cow, pig and sheep/goat bones within the Bronze Age pits suggest an element of either pastoral or mixed farming economy. Deer bones indicate that there was not a total reliance on farming and hunting remained a part of the Bronze Age way of life. Given the scarcity of other late Bronze Age activity on the site it may be appropriate to see this feature as marked with a selection of pottery and animal bones indicative of intentional discard. The general paucity of evidence for activity in this period makes it difficult to define the reason for this, but it may have acted as a termination to other site activities or marked a transformation in use in a similar way to the examples discussed below.

During the Later Neolithic and Bronze Age, occupation of the landscape by the local communities beyond the site is expressed through the building of monuments along the River Granta. Ring ditches and possible mortuary enclosures have been identified at TL523490 (SMR 09356 and 09363). Ritual was already an important aspect of the lives of the local populations and it would be surprising if this was not reflected at the local site level.

Iron Age

No early Iron Age remains were identified during the course of this work. With the presence of late Bronze Age activity, the number of intercutting pits and undated pits and post-holes, however, there is a possibility that an early Iron Age component is present but not evident in the material retrieved. If so the early Iron Age population would appear to have had a similar low level of impact as the late Bronze Age or earlier prehistoric people.

The majority of the remains identified during these excavations were of middle Iron Age date, or at least this was the date of the material which infilled the pits. Where pits intercut, for example **716** and **752,** middle Iron Age pottery was found in both pit sequences suggesting that the majority of pit excavation and infilling can be related to a single period.

Pits **55** and **56** show that some caution is required when assessing this data because although middle Iron Age pottery was found in the fills of both pits the

only sherd of late Iron Age pottery known from the excavation area was recovered from the upper fill (37) of pit **56**. This suggests that there is a residual element within the assemblage which is also indicated by the abraded condition of many of the smaller sherds (Sealey Appendix B). Even so as this is the only case of a pit containing later pottery, and only one sherd, this could reflect a unique situation on the site and simply indicate that this feature was one of only a few (see **716** Figure 30) which was not entirely infilled during the termination of the site in the middle Iron Age.

Pit Form

Basically two forms of pit were excavated, those which are rounded with steep sides and those that are rectangular. Neither type seems to be mutually exclusive to a specific area nor a particular time, as far as the pottery and stratigraphy indicate. Rectangular pits, as in the case of **716,** were shown to be cut by circular pits (**752**), whilst rectangular pits cut circular pits in the cases of **549** and **550**. If, as suggested by their respective stratigraphic positions, rectangular and circular pits were not excavated at separate times, fewer rectangular pits were required at any one time than circular pits with rectangular pits occurring at a ratio of 1:10. This may suggests that the two types of pits served different purposes.

Pit Function

In the main the pits seem to have undergone an initial phase of silting up or intentional back-filling during a period which is probably part of the abandonment cycle. Deposits which might represent the original use of the pit are almost entirely lacking, or at least so disturbed or amalgamated into subsequent fills that they are not recognisable. Environmental sampling found small quantities of charcoal, charred seeds and grain including emmer, wheat and barley in the basal fills of pits. It is always possible that these remains are not traces of activity associated with the original function of the pit, but were introduced at the same time as the primary fill. However, the presence of only very small quantities of animal bones, pottery and charcoal in many of the basal pit fills may indicate agricultural activities in this area were not intense and probably mainly carried out elsewhere. The traces of seeds and grain in an otherwise sterile deposit may indicate the presence of organic remains which lingered whilst the pit was cleaned out.
These environmental remains not only suggest that one of the uses to which these pits were put was storage of grains they also give an indication of the need for periodic abandonment of the site or parts of it. Pit **633** was found to contain snails indicative of ditch, marsh or seasonal pond environments, as well as ostracods. Other low-lying pits contained similar damp/marshy environmental indicators. Further upslope, the snail population within pits was dominated by open country/grassland types, although meadow indicators and amphibians such as frogs or toads were also found. Seasonally high watertables, periodic flooding and intercutting pits with variable preservational environments impose a number of potential risks which would affect the success of storage activities. This may suggest that the storage of processed grains was not the only reason for the large number of pits in the area. These apparent potential risks may also suggest that this area was probably one of several such storage areas for an adjacent settlement, allowing any such risks to be spread across a number of storage sites in different settings.

Settlement

Although post-holes were present within the excavation area, no single structure was defined. In the main the post-holes probably represent short fence lines or structures associated with small-scale activities occurring around the pits.

Occupation was surprisingly absent from the whole of the investigation area and the environmental report suggests that the charred remains are more consistent with agricultural activities than occupation (Rackham Appendix F). The quantities of finds and the survival of substantial portions of several pots would suggest that the occupation area was probably not far way. The background finds concentrations within pits and the top soil would seem to suggest that the settlement was not at any stage in amongst the pits. One's suspicions ultimately focus in the direction of the former quarry, although of course this will be difficult to prove. Settlement could have been further off if the occupants were spreading the environmental risks within their landscape and therefore a settlement to the east of the quarry amongst the Welding Institute buildings is a possibility. The need to use storage space within the floodplain when a marked ridge of high, dry land lay nearby along the river would seem to suggest that there was a requirement to keep such stored resources close at hand as can be seen at sites such as Barrington (Malim 1997) and Greenhouse Farm (Mortimer 1997).

Spatial and Temporal Organisation

Although the pits are discussed as a single group within the report, separate spreads are discernible. Such groupings can only be made on spatial and not on chronological attributes because of the degree of resolution provided by the pottery. The results of the evaluation showed that the pitting activity was spatially restricted and can be seen to be largely enclosed within the excavation area and to lie below the terrace gravel plateau close to the river.

Four interesting pit groups can be defined which seem to represent the general spatial patterning of pits. In the northwestern arm of the trench nine pits lie adjacent to the contour ditch **516/518/524**. These pits seem to respect the lie of the land in a similar way to the ditch and do not extend onto the higher gravels of the spur. The evaluation trenches which crossed this area heading westwards did not identify any pits on these higher gravels.

To the east of the north-western group lies a group of pits of mixed size and form scattered amongst a series of post-holes which suggests that the two activities from which these different types of features result were associated. Traces of grain in some of the pits may suggest some kind of grain processing or drying structures were present adjacent to the pits.

To the east of the pit and post-hole group lie two sets of four pits adjacent to two larger pits **628/584** and **678**. Other pits lie in the area, but activities seem to have been on a smaller scale than evidenced elsewhere.

The largest group with the most dense pattern of pits runs north-south across the centre of the excavation area. Here a curvilinear arrangement of pits appears to be terminated on the northern side by a group of five pits set around a large central pit **619** where special deposits of pottery and a metal knife were found during the excavation.

The spatial patterning and the stratigraphic relationships between the pits indicate that more than a single event is represented by the pits in the excavation area. It is also clear from the spatial layout that pitting was not continuous but could be grouped into at least four phases, whilst the stratigraphic framework from the middle Iron Age pits commonly indicates 2 phases, although the pit sequence in **26**, **17** and **14** suggests 3 phases is most likely. These phases may be separated in time, as indicated by the infilling of pits prior to later re-cutting. It may be at these times that the other pit groups become active. Given the damp conditions expressed in the riverside pits it is also feasible that there was a general migration

of activities upslope and away from the river. If this was the case we might expect the infill regimes to change over time, which would also be reflected spatially.

Pit Fills

The fill descriptions outlined above and in detail in Appendix A indicate that two forms of sediment were contained within the pits. One set comprises a mixture of sands, silts and clays with varying proportions of small sized gravels which are consistent with a local derivation, e.g. pits **21**, **26**, **607**, **667**, and **752**. The river gravels on the site are small, generally less than 0.08m in length and contain small amounts of chalk which can also be found in these pits.

The other set of deposits were similar in nature, a combination of sands, silts, clays and gravels; the gravels, however, often extended to well above 0.10m in length and were commonly burnt. Both flint and sandstone cobbles were encountered, whilst the matrices contained high proportions of charcoal flecks e.g. **584**, **677** and **678**. These were commonly associated with tip lines and a sediment structure which suggests rapid infilling, as in the case of **584** and the upper fills of **619**. A single pit could contain both of these fill types e.g. **584**, **619**, **642** and **651**.

Both types of fill could be found within all of the spatial groups mentioned above indicating that if the second set of deposits can be seen as a single event then all four areas were active or in the process of abandonment at the same time.

These two fill types were also marked by different finds assemblages. Where no large burnt cobbles were present the finds assemblage was poor with only between 1 and 3 sherds of pottery and/or small quantities of animal bone e.g. pits **550**, **598** and **610**. Finds were concentrated within pits containing large cobbles e.g. pit **632** which contained 53 sherds and **732** which had 20 sherds. This pattern was easiest to distinguish in pits containing both types of deposit: for example the lower, cobbleless fills of **584** contained two sherds of pottery whilst in the upper fills (585 and 587) containing cobbles, lay 36 sherds (Figure 11). Not all of the cobble-rich fills were found to contain pottery, as was the case with the lower fills of pit **651.** Forty-two sherds, however, were recovered from the upper fills of this pit. There were also no finds in (cobble-rich) fill 614 of pit **584.** These results suggests that the distinction is not between individual deposits but between the type of infill event and the source of the material. As a rule of thumb where cobbles were frequent there were greater than 3 sherds of middle Iron Age pottery and in all cases where coarse burnt gravels and cobbles were present within a pit the quantities of animal bone increased.

The differentiation between the two fill types is less marked when looking at the number of lithic artefacts. Lithics are more ubiquitous across the site than the other finds types and undoubtedly reflect the earlier phases of activity highlighted in the lithics report (Appendix D) and the discussion above. In pit **623**, however, 25 flint artefacts were found alongside animal bone and 39 sherds of pottery which presumably reflects middle Iron Age flint working occurring in the vicinity with the intentional collection and discard of flint artefacts within some pits.

Finds Sources

The low finds densities in many of the lower fills would seem to indicate that artefact-generating activities did not occur in close proximity to the pitting during

the middle Iron Age. However, the presence of large fire cracked flint and sandstone cobbles which were not burnt *in situ* would suggest that such activity areas must have been at no great distance from this site. The mixture of finds types from bone, flint, pottery and metal work would seem to indicate that the area from which the material was brought was not a specialised work shop, but had a more general function. As the finds are associated with quantities of charcoal, burnt stone and some grain, seeds etc. it would seem probable that they represent the remains of a midden style deposit which may have taken some time to develop. The midden source would help to explain the gnawed and butchered bones, the abraded pottery and other finds encountered. Midden sources have also been used in part to explain finds distribution at the early Iron Age site at Landwade Road, Fordham where low finds densities have been used to explain how pottery may have unintentionally entered pits, post-holes, ditches etc. (Braddock and Hill in press).

Placed deposits

The pits would seem to have undergone a secondary use following the primary abandonment. This second phase of activity appears to be associated with the large cobbles and high finds densities mentioned above and is associated with the rapid infilling of some of the pits. Other pits appear to have been allowed to silt up naturally. These tend to occur earlier in the pit sequence since they have a tendency to have been cut by pits containing the finds-rich deposits, for example **628,** which was cut by **584**, and **716** cut by **752** (Figures 11 and 30).

Four of the pits appear to have assemblage constructions which are out of step with the above deposit formation. These are discussed separately because of the possibility that one or more of the deposits in them may have been intentionally placed and therefore represent a form of ritual which extends from the Late Bronze Age and into the middle Iron Age. This continuity has been recognised on a larger scale at Landwade Road, Fordham (Braddock and Hill in press)

Significant pottery assemblages were recovered from the late Bronze Age pit **711** and the two middle Iron Age pits **619** and **732**. The position of the pottery within the pits **711** and **619** has been discussed in the above text and photographs of the *in situ* pottery have been presented (Figures 5 and 18). In both of these features a significant proportion of a single vessel was found in association with other sherds and finds. In the case of pit **732** the pot remains appear to have been dispersed throughout the pit, or at least the deposit was not formed in the style of **711** and **619**. The presence of a buried iron knife in pit **732** suggests that there is a ritual core within the site.

Pit **619** contained about 50% of a single vessel in fill 626 of which 60% of the rim and some base sherds were found. Two hundred and twelve sherds out of 218 sherds found in context 626 represent a single vessel. Importantly these sherds were not abraded as might be expected from a vessel which had derived from an active midden deposit as suggested above. The condition of the pot was partly the result of the formation of this deposit where the pot seems to have broken up in place, probably as a result of the weight of the overlying sediments. The pottery was associated with a cresentic double edged (combination) knife (SF 104; Appendix E). The knife is short and broad compared to the knife (SF101) found buried in pit **732** which has a long tapering tang on which the handle was mounted (Figures 52 and 53). Specialist analysis suggests that both knives were buried complete with an organic hilt and a bone or wooden handle.

Twenty-nine sherds of pottery were found in the two upper fills (735/737 and 738) of the pit **732**, whilst the knife was recovered from the basal deposit. The general absence of finds other than pottery, which is ubiquitous in its association

with the termination phase, may indicate the importance of the iron knife in delineating a change of activity and may also indicate that the ritual activities were focused on this part of the site.

The association of finds such as pottery, bone and lithics in layers which directly overlie deposits reminiscent of the infill sequences seen elsewhere (i.e. a division between natural sediments and those containing burnt sandstone and flint cobbles etc.) can be identified within the pit containing the knife. The presence of a sherd deriving from the vessel found in fill 626 and a possible fragment of the knife (SF103) in 618, the layer above, suggests that all of these deposits come from the same source, such as a midden, and therefore may represent intentional secondary rubbish disposal within these pits. As mentioned above the low abrasion traces on the pottery and the large sherd size is not consistent with a large pot sitting within an active midden for a long period. If all the material has been sourced from the same location it is surprising that the vessel did not disintegrate within the midden or en route to the pit and it may therefore have been curated. The vessel could have been curated from an earlier event as suggested by Braddock and Hill for the presence of parts of vessels at Fordham (Braddock and Hill inpress). The sherd of pottery found in fill 626 could presumably have been lost in the ritual and swept into the pit during the final cleaning-up of the site. Alternatively it might support a case for a derivation of the pot, along with the animal bone, burnt stone etc from a single source such as a midden

A similar scenario may have occurred for the knife from fill 626, with the knife being broken during the course of activities at the source area or at the pit and before becoming part of this special deposit. Unfortunately the location of the knife in relation to the pot was not recorded by the excavator. It is however clear that the vessel sat in a slight depression at the junction between fill 626 and 673 indicating that the pot was the first of the items placed into the pit during the course of this event.

The position of pit 619 at the northern end of one north-south curvilinear pit group with five satellite pits on its western side indicates a core to this phase of ritual activity. Whilst the second buried knife (SF101) was found in pit 732, no other ritual evidence was found within the other satellite pits. The placed deposits could either mark the unique set of attributes of these pits or could mark the interface between the activities associated with the finds-poor and the finds-rich deposits. If the latter is the case, which is suspected from the deposit formation, the placement of the pottery and knives may represent a rite of termination for a series of pits across the site. Similar termination rites have been recognised at the late Iron Age sites of Ardleigh and Woodham Walter, Essex, where activities were scaled down after the event (Brown in press). The event at Abington would appear to mark a similar major change in landuse from maintenance of pits to a single stage of abandonment. Pits were infilled with available sediments i.e. midden deposits, levelled and the land put to other purposes.

Another potential placed deposit was at the base of pit **633** were 80% of the rim of a single vessel and 3 body sherds from the same vessel were found. Unlike the vessel in pit **619** and the Bronze Age vessel in **711** these sherds were found throughout the basal deposit. A further 8 sherds of pottery, lithics and bone were found in the rest of the back-fill sequence. During the course of excavation this was believed to have been a special deposit although of a different kind from those seen in **619**, **711** and **732**. On consideration of the material found with the sherds and the deposit formation discussed above i.e. the deposits derivation from a midden, this is no longer considered to be proof of deliberate placement. However, at Edix's Hill, Barrington, Cambridgeshire, Malim suggested that rim

sherds had been selected out for deposition (Malim 1989). At Barrington only single vessels appear to be represented and pot and bone seem to have been separated. Because of the pottery was dispersed within the lower fills of the pit it is believed that the remains in **633** do not represent a placed deposit, but are the result of the survival of the rim as a discrete unit within a midden and its subsequent deposition within the pit.

Few of the placed deposits discussed above contain any base sherds and very few base sherds were found during the course of the excavation. Braddock and Hill suggest that on ethnographic evidence base sherds would be under represented as they could be used for other serving dishes and plates and presumably represent an element of the assemblage which they describe as disposed of in an archaeologically untraceable manner (Braddock and Hill in press).

A second type of placed deposit which appears not to relate to a termination ritual and was not focused on pit **619** and its satellites was found during the 1997 trench 30 evaluation (Bray and Way 1997). Photographs and drawings show a dismembered sheep/goat laid out in the base of pit **17**. The record shows that the animal although incomplete was laid out as a series of joints within the pit. Pit fills associated with the placement consist of locally derived silts and gravels with chalk and imply that the pit was either cleaned out or was specifically cut for the burial. This pit was cut by a later pit which contained finds and sediments which resemble the termination event discussed above. This burial therefore represents and earlier phase of ritual activity, and corresponds to the separation of bone and pottery seen at Barrington.

What the pit does tell us is that ritual at the Abington site was not a one or two phased event but had a complex history with varying representations which may not all have been recognised or properly appreciated during the course of these excavations. For example Ian Baxter discusses the presence of a single bone from a white tailed eagle found in pit **641** as a potential placed deposit based on the significance of the bird to Romano-British populations (Baxter Appendix C). The bird would nevertheless have been at home along the River Granta.

From the infilling of pit **17** and subsequent disturbance by pit **14**, which came very close to removing part of the burial, we need to recognise that we only have a partial record of the ritual activities which occurred on the site. Thought needs to be given to why pits were recut as it may in some cases imply that placed deposits were intended for retrieval. This could be intimated by the frequent recutting of pits followed by rapid backfill events i.e pits **678** and **752**. It is apparent from the excavation results that even with a large proportion of the total number of pits excavated, the placements identified are biased towards those rituals marking the final infill event.

Middle Iron Age Summary

The animal bone, environmental evidence and the evidence of storage of agricultural products all seem to suggest that a mixed farming community lay in close proximity to the excavated site. The land was seemingly divided into areas of settlement, activity areas, middens and storage. Or at least the pit-style storage areas seem to be excluded from settlement middens. Pit excavation appears to have been dispersed with all parts of the site active at any one time, or at least at the time of termination of the pits there were pits in all areas which required infilling.

The small amount of environmental evidence from the site would seem to suggest that the pits were primarily excavated for grain storage although it is possible that in the case of pit **17** the intention was for a specific ritual burial of a sheep/goat.

Like many Iron Age sites, rituals were closely identified with pits, presumably because these are subsurface remains which are well preserved and therefore comparatively easily retrieved by archaeologists. At Abington two types of ritual were encountered, those associated with the sheep/goat burial and those that appear to demarcate the termination of the storage function of the site. The latter appears to have been focused on the large pit **619** and its satellites, particularly pit **732**. As two phases are identifiable and as there is evidence for the partial digging-out of the infilled pits there is a suspicion that other ritual phases took place. The items deposited during these other rituals may have been retrieved by the Iron Age occupants or perhaps the ritual element in them was too subtle to be discovered by the level of analysis undertaken for this report. The purpose and meaning behind the deposition of the white tailed eagle bone, for example, remains unclear.

Environmental evidence, animal remains and the stratigraphy of the site may indicate that changes in the local environment forced the abandonment of the pits in this area. Frogs/toads and snails appreciative of marshy habitats seem to replace dry grassland species indicating a change to wetter conditions which are also evidenced by the alluvial deposits which overlie the backfilled pits.

The pits were intentionally backfilled with midden type deposits rather than abandoned to natural silting as the ground became wetter. Levelling-up of the area of pitting suggests that the middle Iron Age population still had a planned use for the site and the land was not abandoned. Given a mixed farming economy one can suspect grazing of meadow lands adjacent to the river with arable on the higher gravels. There is however, no evidence within this site to suggest that the local settlement declined and was abandoned which happened following the termination rites at Woodham Walter, Essex. It is probably as likely that the storage facilities were moved to a more appropriate place.

These changes in site location can be seen at Greenhouse Farm, Cambridge, and Edix Hill, Barrington, where occupation and activity areas can be seen to migrate over short distances within the local landscape (Mortimer 1997, Malim 1997). Similar zoning of activities can be seen at Rectory Farm, Great Shelford where areas of intensive pitting lie at a distance of 250m from the settlement area (Trump et al 1978)

Malim suggests a model of increasing stock management in the middle to late Iron Age with a movement away from unenclosed settlements with their extensive collection of pits to large ditched features and parcelling up of the landscape (Malim 1997). It is very possible that this scenario fits alongside the abandonment of the pits at Abington as no replacement for these activities has so far been found on the surrounding higher ground. On this model, infilling and levelling of the site would have been followed by the site's use as grazing land beside the river.

Late Iron Age

A single sherd of late Iron Age pottery is the only direct evidence that the site was not entirely abandoned. This was from the upper fill of pit **56** and may suggest that the final events outlined above occurred on the cusp of this change

in pottery styles. Alternatively, the pottery may be a contaminant from another feature given the problems the excavators had in understanding this particular part of the archaeological sequence during the evaluation. The pottery shows that Iron Age populations had not abandoned the area and were still active in the vicinity of the site and possibly living close by.

Roman and Later Archaeology

Sometime between the late Iron Age and before the two ditch systems were dug, alluviation seems to have been the main source of sedimentation alongside the river. This was probably an episodic or seasonal occurrence which may relate to late Iron Age/Roman climatic fluctuations or result from Roman land clearance schemes as has been postulated for many lowland river systems in Britain. It is probable that the deposit which is only 0.20m in depth represents more than a single event, although no laminations or layering could be recognised, and that this piece of land would still have been utilised by occupants of the landscape.

There is no evidence for an adjacent Roman settlement and only two sherds of Roman pottery were recovered during the excavation. Leith identified the closest Roman site at about 1km from the excavation area which could have been the source for this material (Leith 1997).

Two ditch systems were identified, the earliest of which demarcated the rise of the gravels alongside the river and probably represents a field boundary delineating meadow from arable field systems. In the northwest arm of the excavation area the ditch seems to have been bounded by a post and stake fence. The second set of ditches run downslope and presumably relate to drainage. Their alignment respects the strip cultivation divisions shown on the 1687 Map of Great Abington and redrawn for the desktop assessment (Leith 1997). They are presumably medieval or post-medieval although they could be earlier and may indicate that the ridge and furrow cultivation was orientated for drainage. The presence of post-medieval pottery in the fills and a depth of between 0.30 and 0.50m would suggest that they were not long lived features. As no furrows were identified in this part of the field it is impossible to indicate whether the ditches made use of the furrow or vice versa and thereby give an indication of the evolution of this pattern of land use. It is however, obvious that these features hold no place in the Repton landscape of Abington Park.

8 CONCLUSION

The project has highlighted the importance of this area to the local population in the middle Iron Age.

Excavations revealed both the initial purpose of the pits, which appears to have been for grain storage and why they were abandoned, rising ground water levels which meant that many of the river-side pits were damp and unsuitable for their original purpose. These changes may also have been associated with alterations in the local economy and land management. Added to this at least four phases of pitting and infill have been identified, the last demarcated by a series of placed deposits, including pottery and knives, which indicate that a series of rituals were undertaken in association with the termination of use of these pits.

Subsequent to these rites the pits were backfilled with fragments of hearth, animal bones and pottery representative of midden deposits which suggest that occupation areas were at no great distance from the excavated area, although not within any of the areas explored in the evaluation. It is suggested that the settlement lay to the east and has either been quarried away or lies beneath the existing buildings of the Welding Institute. Although the pits at Barrington, Fordham and Greenhouse Farm lay close to the settlement areas those at Rectory Farm were 250m distant, which gives an idea of the potential range within which the settlement may have lain.

The association of Iron Age rituals with pits was not a singular event on the site. The sheep/goat burial and possibly the re-excavation of some pits may indicate earlier phases which are no longer traceable. The ritual association between deposition and pits also had a long tradition for the middle Iron Age population as similar deposits were found dating to the late Bronze Age.

In all the project has been remarkably successful with over 70% of the pits encountered in the excavation area excavated. In addition contextual and specialist analysis and presentation of the results has been made within eighteen months of the completion of the fieldwork.

Further work is required to integrate this work thoroughly with the regional and national Iron Age models and particularly to investigate the placed deposits. Once this work has been undertaken it is intended that the results of this work will be presented in the regional journal *Proceedings of the Cambridge Antiquarian Society.*

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APPENDIX A. CONTEXT LISTS

Context	Feature Type	Length	Width/Diam	Depth	Shape in plan	Side	Base
27	Pit	01.70	00.70	00.40	circular	Vertical	irregular
39	Pit		01.30	00.40	sub-circular	Gradual	concave
44	Ditch		01.00	00.35	linear	Gradual	concave
46	Ditch		00.47	00.11	linear	Gradual	concave
48	Ditch		00.97	00.36	linear	Steep	concave
513	Pit		01.80	00.55	circular	Vertical	flat
516	Ditch		00.50	00.12	linear	Gradual	flat
518	Ditch		00.54	00.12	curvilinear	Gradual	concave
522	Pit		00.63	00.22	circular	Steep	concave
524	Ditch	02.00	00.75	00.22	curvilinear	Steep	flat
526	Ditch		00.70	00.34	circular	Steep	concave
549	Pit	01.85	01.70	00.25	rectangular	Vertical	flat
550	Pit	01.80	01.75	00.10	sub-circular	Steep	flat
552	Pit		00.65	00.20	circular	Gradual	flat
554	Pit		00.75	00.22	circular	Undercut	concave
556	Pit		00.90	00.80			
558	stakehole		00.06	00.05	circular	Vertical	flat
560	stakehole		00.07	00.10	circular	Vertical	flat
562	stakehole		00.07	00.10	circular	Vertical	flat
564	stakehole		00.07	00.10	circular	Vertical	flat
569	Pit	02.03	01.90	00.40	sub-circular	Steep	concave
571	Post hole	00.46	00.39	00.18	sub-circular	Steep	concave
572	Post hole	00.53	00.29	00.20	sub-circular	Steep	irregular
573	Post hole	00.47	00.38	00.18	sub-circular	Steep	concave
583	Post hole	00.90	00.80	00.20	sub-circular	Steep	concave
584	Pit	01.95	02.30	00.78	sub-circular	Steep	flat
588	stakehole		00.12	00.26	circular	Vertical	concave
593	stakehole		00.10	00.30	circular	Vertical	concave
595	Post hole	00.40	00.35	00.08	sub-circular	Steep	concave
596	Pit		00.65	00.23		Gradual	concave
598	Pit		01.20	00.67	circular	Vertical	concave
603	Pit	02.40	01.65	00.60	rectangular	Steep	flat
605	Pit		01.40	00.23	circular	Gradual	flat
607	Pit		01.38	00.44	circular	Steep	flat
610	Pit		00.84	00.10	circular	Gradual	flat
619	Pit		03.05	01.70	circular	Complex	flat
623	Pit		01.30	00.56	circular	Vertical	flat
625	Pit		01.63	00.50	circular	Vertical	flat
628	Pit	02.45	02.30	00.78		Steep	
632	Pit		01.07	00.41	circular	Steep	flat
633	Pit		01.04	00.62	circular	Steep	concave
634	Pit		01.11	00.23	circular	Imperceptible	concave
636	Pit		00.80	00.22	sub-circular	Steep	concave

Context	Feature Type	Length	Width/Diam	Depth	Shape in plan	Side	Base
641	Pit	02.30	01.30	00.55	rectangular	Vertical	flat
642	Pit		01.30	00.73	circular	Vertical	flat
651	Pit		01.30	00.42	circular	Vertical	flat
652	Pit		02.00	00.43	circular	Vertical	concave
654	Pit		01.78	00.35	circular	Gradual	flat
667	Pit		01.05	02.00	circular	Steep	flat
671	Post hole		00.42	00.15	circular	Gradual	concave
676	Post hole		00.56	00.30	circular	Complex	irregular
677	Pit		02.10	00.85	circular	Steep	flat
678	Pit		01.43	00.65	circular	Vertical	flat
681	Post hole		00.35	00.14	circular	Gradual	concave
685	Pit		01.23	00.40	circular	Gradual	concave
688	Pit		01.67	00.71	circular	Steep	irregular
694	Pit		01.60	00.75	circular	Steep	flat
696	Pit		01.00	00.33	circular	Steep	concave
698	Pit		00.98	00.23	circular	Steep	convex
704	Pit	01.08	00.56	00.12	circular	Gradual	concave
711	Post hole		00.96	00.21	circular	Steep	flat
716	Pit	02.50	01.38	01.20	sub-rectangular	Steep	flat
717	Pit		02.00	00.70	circular	Steep	flat
732	Pit		02.00	00.70	circular	Steep	flat
742	Pit		03.40	01.00	circular	Steep	flat
744	Ditch		01.00	00.60	linear	Steep	concave
749	Pit		01.50	00.72	circular	Vertical	flat
750	Pit	01.30		00.87			
752	Pit	01.30		01.10	circular	Complex	concave
756	Ditch	14.00	01.10	00.35	linear	Gradual	concave

Context	Feature Type	Cut	Munsell Colour	Fine Component	Coarse Component	frequency
26	Pit	27	10yr 3/3	silty sand	chalk	occasional (1-10%)
28		0				
29	natural feature	0				
40	Pit	39	7.5 yr 3/3	sandy silt		
43	Ditch	44	10yr 4/3	silty sand		
45	Ditch	46	10yr 4/4	sandy silt		
47	Ditch	48	10yr 4/3	sandy silt		
507	Pit	550	10yr 4/2	sandy silt	rounded burnt stone	occasional (1-10%)
508	buried soil	1				
509	Post hole	510	10yr 3/3	sandy silt	gravel	occasional (1-10%)
510	Post hole	510				
511	layer	511	10YR 4/4	silty clay	flint	occasional (1-10%)
512	Pit	513	10yr 4/2	silty sand	sub angular flints	occasional (1-10%)
514	Pit	513	2.5Y 3/1	silty sand	flints	occasional (1-10%)
515	Ditch	516				
517	Ditch	518	10yr 5/3	silty sand	flint gravel	moderate (15-35%)
519	cleaning layer	519				
520	cleaning layer	520				
521	Pit	522	10yr 4/2	sandy silt	flint inclusions	occasional (1-10%)
523	Ditch	524	10yr 3/4	silty sand	flint and stone	moderate (15-35%)
525	Ditch	526	10yr 4/4	sandy silt	angular stones	frequent (>40%)
527	cleaning layer	527				
528	cleaning layer	528				
529	cleaning layer	529				
530	cleaning layer	530				
532	cleaning layer	532				
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538	cleaning layer	538				
539	cleaning layer	539				
540	cleaning layer	540				
541	cleaning layer	541				
542	cleaning layer	542				
543	cleaning layer	543				
544	cleaning layer	544				
545	cleaning layer	545				
547	Pit	547	10YR 4/3	sandy silt	angular stones	occasional (1-10%)
548	Pit	549	2.5Y 6/6	silty sand	Angular stones	occasional (1-10%)
551	Pit	552	10yr 5/3	silty clay	sub-angular flints	occasional (1-10%)
555	Pit	555				
557	stakehole	558	10yr 5/4	silty sand	sub-angular flints	occasional (1-10%)

Context	Feature Type	Cut	Munsell Colour	Fine Component	Coarse Component	frequency
559	stakehole	560	10YR 5/4	silty sand	sub angular flint	occasional (1-10%)
561	stakehole	560	10YR 5/4	silty sand	sub angular flint	occasional (1-10%)
563	stakehole	564	10yr 5/4	silty sand	sub angular flint	occasional (1-10%)
565	natural feature	565				
566	natural feature	566				
567	natural feature	567				
568	cleaning layer	568				
570	Pit	569	10YR 4/4	sandy silt	stones	moderate (15-35%)
574	Pit	549	2.5Y 5/3	sandy silt	large angular stones	frequent (>40%)
575	Natural	575	10yr 4/4	silty sand	flint gravel	moderate (15-35%)
576	Post hole	571	10yr 2/1	silty sand	flint gravels	moderate (15-35%)
577	Post hole	572	10yr 2/1	sandy silt	flint gravel	moderate (15-35%)
578	Post hole	573	10yr 3/3	sandy silt	gravel flints	moderate (15-35%)
579	Pit	513	10yr 4/2	silty sand	sub angular flints	occasional (1-10%)
580	Pit	552	10YR 4/3	clayey sand	sub angular flints	occasional (1-10%)
581	layer	581	10yr 4/4	sandy silt	angular pebbles	occasional (1-10%)
582	Pit	583	10YR 3/3	sandy silt	flint	occasional (1-10%)
585	Pit	584	10yr 4/4	sandy silt	flint & sandstone	occasional (1-10%)
586	Pit	584	10yr 5/6	coarse sand	gravel	frequent (>40%)
587	Pit	584	10YR 4/4	sandy silt	flint	occasional (1-10%)
589	stakehole	588	10yr 3/2	silty sand	sub angular flints	occasional (1-10%)
590	stakehole	588	10yr 4/2	silty sand	sub angular flint	occasional (1-10%)
591	Pit	591	10yr 4/2	silty sand	sub angular flints	occasional (1-10%)
592	stakehole	593	10yr 4/1	sandy silt	sub angular flints	occasional (1-10%)
594	Post hole	595	10yr 4/3	sandy silt	sub angular stones	moderate (15-35%)
597	Pit	598		silty sand	flint	frequent (>40%)
599	Pit	584	2.5Y 7/3	clayey silt	fragments of chalk	occasional (1-10%)
600	Pit	584	10YR 3/4	sandy silt	gravel flints	occasional (1-10%)
601	Pit	603	10YR 4/2	sandy silt	sub angular stones	occasional (1-10%)
602	Pit	603	10YR 4/4	sandy silt	sub angular flints	frequent (>40%)
604	Pit	605	10yr 3/3	silty sand	large flints	moderate (15-35%)
606	Pit	607	10YR 2/1	silty sand	small flints	occasional (1-10%)
608	Pit	603	10YR 4/3	sandy silt	small angular stones	occasional (1-10%)
609	Pit	610	10YR 3/2	sandy silt	sub angular flints	occasional (1-10%)
611	Pit	584	10yr 4/6	silty sand	gravel	occasional (1-10%)
612	Pit	584	10yr 5/3	sandy silt	gravel	frequent (>40%)
613	Pit	584	10YR 4/4	clayey silt		frequent (>40%)
614	Pit	584	10yr 4/4	clayey silt	coarse flint gravel	frequent (>40%)
615	Pit	628	10YR 6/3	clayey silt	degraded chalk	occasional (1-10%)
616	Pit	607	10YR 4/6	silty sand	flint	frequent (>40%)
617	Pit	652	2.5Y 3/2	silty sand	stones and flint	moderate (15-35%)
618	Pit	619	10yr 4/3	silty sand	sub angular flints	moderate (15-35%)
620	Pit	623	10YR 4/2	sandy silt	angular sandstone	moderate (15-35%)
621	Pit	623				
622	Pit	623	10yr 4/3	silty sand	sub angular flints	occasional (1-10%)

Context	Feature Type	Cut	Munsell Colour	Fine Component	Coarse Component	frequency
624	Pit	625	10yr 2/2	silty sand	small flints	occasional (1-10%)
626	Pit	619	2.5y 3/1	sandy silt	small subangular fli	occasional (1-10%)
627	Pit	619	2.5y 6/4	silty sand	flints	occasional (1-10%)
629	Pit	625	10YR 4/6	silty sand	small flint gravels	frequent (>40%)
630	Pit	625	10yr 4/2	sandy silt	small flint-gravel	moderate (15-35%)
631	Pit	625	10yr 2/1	silty sand	flint inclusions	occasional (1-10%)
635	Pit	636	10yr 4/4	sandy silt	gravel	occasional (1-10%)
637	Pit	619	10YR 3/1	clayey silt	sub angular flints	occasional (1-10%)
638	Pit	619	10yr 5/3	sandy silt	small subangular st	occasional (1-10%)
639	Pit	641	10yr 3/4	sandy silt	subangular stones	moderate (15-35%)
640	Pit	641	10yr 5/4	sandy silt	angular stones	frequent (>40%)
643	Pit	642	10yr 4/3	silty sand	subangular flints	occasional (1-10%)
644		644				
645	Pit	6,642	10yr 4/4	silty sand	subangular flints	occasional (1-10%)
646	Pit	619	10 yr 5/4	sandy silt	small chalk blocks	occasional (1-10%)
647	Pit	619	2.5y 7/6	sandy silt	small subangular st	occasional (1-10%)
648	Pit	619	10yr 4/3	silty sand	small subangular st	occasional (1-10%)
650	Pit	651	2.5y 3/2	silty sand	small to medium sto	moderate (15-35%)
653	Pit	654	10yr 4/2	sandy clay	large flints	frequent (>40%)
655	Pit	632	10yr 4/4	clayey sand	flint inclusions	occasional (1-10%)
656	Pit	632	10yr 3/4	clayey silt	flint inclusions	occasional (1-10%)
657	Pit	633	10YR 4/4	clayey sand	flint inclusions	occasional (1-10%)
658	Pit	633	10yr 3/2	clayey silt	flint inclusions	occasional (1-10%)
659	Pit	633	10yr 4/3	clayey silt	flint & stone inclus	occasional (1-10%)
660	Pit	634	10yr 4/6	clayey sand	flint inclisions	moderate (15-35%)
661	Pit	642	10yr 5/3	silty sand	subangular flint	occasional (1-10%)
662	Pit	642	10yr 4/2	silty sand	subangular flint	occasional (1-10%)
663	Pit	633	10yr 4/4	clayey sand	flint inclusions	occasional (1-10%)
664	Pit	654	10yr 4/3	clayey sand	large flint inclusio	moderate (15-35%)
665	Pit	642	2/5Y 6/3	clayey sand	subangular flint	occasional (1-10%)
666	Pit	667	10yr 3/3	silty sand	pebbles	moderate (15-35%)
668	Pit	652	2.5y 4/4	silty sand	gravel inclusions	moderate (15-35%)
669	Pit	652	2.5Y 5/2	silty clay	flint	frequent (>40%)
670	Post hole	671	10yr 4/3	silty sand	small pebbles	moderate (15-35%)
672	Pit	677	10YR 4/6	sandy silt	small angular stones	moderate (15-35%)
673	Pit	619	10yr 4/2	sandy silt	small stones	moderate (15-35%)
674	Pit	619	10yr 5/3	silty sand	small stones	occasional (1-10%)
675	Post hole	676	10yr 4/3	silty sand	small flint pebbles	moderate (15-35%)
679	Pit	678	10yr 4/6	clayey silt	large flint inclu	occasional (1-10%)
680	Pit	681	10yr 4/3	silty sand	small to med' flints	moderate (15-35%)
682	Pit	678	10yr 3/4	clayey silt	large flints	frequent (>40%)
683	Pit	678	10yr 4/4	clayey silt	large flints	frequent (>40%)
684	Pit	685	10yr 3/3	clayey sand	large flint pebbles	occasional (1-10%)
686	Pit	619	10yr 2/3	sandy silt	small stones	occasional (1-10%)
687	Pit	619	10yr 5/4	sandy silt	small stones	moderate (15-35%)

Context	Feature Type	Cut	Munsell Colour	Fine Component	Coarse Component	frequency
689	Pit	688	10yr 5/6	sandy silt	small flints	occasional (1-10%)
690	Pit	688	10yr 4/4	sandy silt	small flints	occasional (1-10%)
691	Pit	688	10yr 4/6	sandy silt	flint inclusions	moderate (15-35%)
692	Pit	688	10yr 4/4	sandy silt	flint inclusions	frequent (>40%)
693	Pit	694	10yr 3/4	silty sand	small pebbles	frequent (>40%)
695	Pit	696	10yr 4/4	sandy silt	large flints	occasional (1-10%)
697	Pit	694	10yr 5/4	silty sand	small pebbles	occasional (1-10%)
699	Pit	698	10yr 4/6	sandy silt	sub-angular flint	occasional (1-10%)
700	Pit	698	10yr 4/6	sandy silt	sub-angular flint	occasional (1-10%)
701	Pit	698	10yr 3/6	sandy silt	angular flints	moderate (15-35%)
702	Pit	651	10yr 4/4	silty sand	small stones	moderate (15-35%)
703	Pit	704	2.5y 5/4	silty sand	stones	occasional (1-10%)
705	Pit	694	10yr 4/4	sandy silt	gravel	moderate (15-35%)
706	Pit	694	10yr 5/3	silty sand	small gravel	occasional (1-10%)
707	Pit	694	10yr 5/3	silty sand	small gravel	occasional (1-10%)
708	Post hole	711	10yr 4/2	silty clay	small pebbles	occasional (1-10%)
709	Post hole	711	10yr 5/4	silty clay	large flint	frequent (>40%)
710	Post hole	711	10yr 4/6	silt	large flints	moderate (15-35%)
714	Pit	716	10yr 3/2	silty clay	small gravel	occasional (1-10%)
715	Pit	716	10yr 2/1	silty clay	flint inclusions	occasional (1-10%)
718	Pit	717	10yr 4/4	silty sand	large flints	occasional (1-10%)
719	Pit	717	10yr 3/4	silty sand	large flints	occasional (1-10%)
720	Pit	717	10yr 4/6	silty sand	large flints	occasional (1-10%)
721	Pit	717				
722	Pit	717	10yr 4/6	silty sand		
723	Pit	717	2.5y 4/3	silty sand		
724	Pit	677	2.5y 5/4	sandy silt	small pebbles	frequent (>40%)
725	Pit	677	2.5y 7/8	sandy clay	small angular stones	occasional (1-10%)
726	Pit	677	10yr 4/6	silty sand	small stones	occasional (1-10%)
727	Pit	677	10yr 5/4	silty sand	small large stones	frequent (>40%)
728	Pit	677	10yr 5/6	sandy clay	small stones	occasional (1-10%)
729	Pit	677	10yr 5/4	sandy clay	small stones	occasional (1-10%)
730	Pit	677	10yr 5/6	sandy clay	small stones	occasional (1-10%)
731	Pit	677	2.5y 4/2	sandy clay	small stones	occasional (1-10%)
733	Pit	732	10yr 3/6	sandy silt	small flints	occasional (1-10%)
734	Pit	732	10yr 5/4	sandy silt	flint inclusions	occasional (1-10%)
735	Pit	732	10yr 4/4	sandy silt	flint inclusions	occasional (1-10%)
736	Pit	732	10yr 5/6	sandy silt	small flints	occasional (1-10%)
737	Pit	732	10yr 4/6	sandy silt	flint inclusions	occasional (1-10%)
738	Pit	732	10yr 4/6	sandy silt	flint inclusions	occasional (1-10%)
739	Pit	749	10yr 4/3	sandy silt	gravel	frequent (>40%)
740	Pit	716	10yr 4/4	sandy silt	gravel	occasional (1-10%)
741	Pit	716	10yr 5/1	silty clay	small gravel	occasional (1-10%)
743	Pit	742	10yr 4/3	silty sand	charcoal	occasional (1-10%)
745	Ditch	744	10yr 3/4	sandy silt	large stones	occasional (1-10%)

Context	Feature Type	Cut	Munsell Colour	Fine Component	Coarse Component	frequency
746	Pit	742	10yr 4/4	sandy silt	small flints	occasional (1-10%)
747	Pit	749	10yr 3/2	silty sand		
748	Pit	749	10yr 4/6	silty sand	sandy gravel	frequent (>40%)
751	Pit	752	10yr 4/1	silty clay	flint inclusions	occasional (1-10%)
753	Pit	752	10yr 3/2	silty clay	flint inclusions	occasional (1-10%)
754	Ditch	756	10yr 4/2	sandy silt	flints	occasional (1-10%)
755	Ditch	756	10yr 4/3	sandy silt	flints	moderate (15-35%)
757	Pit	716	10yr 5/2	clayey silt	flint inclusions	occasional (1-10%)
800	Pit	749	10yr 4/6	silty sand	gravel	frequent (>40%)
801	Pit	749	10yr 3/2	sandy silt	flint inclusions	occasional (1-10%)
802	Pit	742	2.5y 8/2		chalk	moderate (15-35%)
803	Pit	742	10yr 4/4	sandy silt	chalk	occasional (1-10%)
804	Pit	742	2.5y 8/2			
805	Pit	742	10yr 4/4	sandy silt	charcoal	occasional (1-10%)
806	Pit	742	10yr 5/4	sandy silt	chalk	frequent (>40%)

APPENDIX B. PREHISTORIC POTTERY

by Dr Paul R. Sealey, F.S.A.

INTRODUCTION

Abington Park produced 745 sherds of prehistoric pottery from 74 contexts, weighing 9999 g. The mean sherd weight is 13.4 g. Nearly all the pottery is middle Iron Age and dated *c.*350-50 BC; most of it came from pit fills. The pits seldom cut each other and no significant stratigraphical relationships could be established for contexts with pottery. Most contexts only had small and abraded sherds. But no less than 60 % of the prehistoric pottery by weight from the site came from the middle Iron Age Pits 619 and 633; the former included a placed deposit.

THE LOCAL CONTEXT

Five kilometres to the north-west of Abington Park is the hill-fort of Wandlebury (Hartley 1957), and four kilometres to the south-east is the Iron Age site at Linton (Fell 1953). Both are important, not least because they have given their names to two of the early (*i.e.* initial) Iron Age pottery style zones of south-eastern Britain, the Chinnor-Wandlebury and Darmsden-Linton styles (Cunliffe 1968,178-81,figs 1-4; 1974,39,325-6; 1978,41-2,359-60). Understandably therefore the relationship of the Abington Park pottery to the assemblages from Wandlebury and Linton will be central to its evaluation.

REPORT OBJECTIVES

The primary objective of the prehistoric pottery project was to date the site. Once it became apparent the bulk of the pottery was middle Iron Age, the affiliations of the pottery with local pottery style zones were evaluated. Two pit groups were examined in detail as a contribution to the debate about placed and ritual pit groups in the Iron Age.

POTTERY ARCHIVE

There is a pottery archive. It includes paper sheets giving quantified details for each individual context of the original forty-one fabric groups into which the pottery was divided. Included in this paper archive is an account of this original fabric series. The spreadsheet on which this data was compiled for the site in its entirety was too big to be printed but is available in the archive on disc.

PHASING

Phase I is early or middle Bronze Age. The earliest pottery from the site is an (unillustrated) early or middle Bronze Age vessel in Fabric G from Pit 4, identified by N. R. Brown. The sherd is 12 mm thick with an approximate external diameter of 180 mm. Its light brown outer surface is plain and undecorated; the inner surface is dark brown to black. The temper is sparse (< 6 grains per cm2) fine sand < 0.25 mm, and sparse light brown grog or clay pellets up to 2 mm. There are no diagnostic typological features to take its identification any further.

Phase II is late Bronze Age. The only feature of this date is the pit or post-hole 711 which produced 22 sherds of (unillustrated) coarse flint-tempered pottery weighing 237 g. Two vessels are represented. One of them has flint rough-casting on the outside of the base, a feature typical of the period (Brown 1988,269; Rigby 1988,103). The other is decorated with deep parallel grooves. In late Bronze Age pottery there is a progression from plain to decorated wares (Barrett 1980,303-8,313), but the Abington Park group is not big enough to warrant taking the three decorated sherds as indicative of a date at the end of the period (Needham 1996,254).

	sherd count	percentage of total	sherd weight	percentage of total
Phase I	1	0.1 %	22 g	0.2 %
Phase II	22	2.9 %	237 g	2.4 %
Phase III	717	96.2 %	9730 g	97.3 %
Phase IV	5	0.7 %	10 g	0.1 %
totals	745		9999 g	

Table 1. Prehistoric Pottery Sherd Counts and Weights by Phase

Phase III is middle Iron Age and it is to this period that the bulk of the Abington Park pottery belongs. Three rough-cast base sherds in a coarse flint-tempered fabric from middle Iron Age Pit 623 are late Bronze Age, but there is no reason to think that Phase III contexts are contaminated with earlier material to any significant extent. An initial, early Iron Age phase is not present.

Phase IV is late Iron Age. Its existence is based on the frailest of evidence, a single sherd of Belgic ware in a context with four sand and sand-and-vegetable tempered sherds of middle Iron Age type.

VESSEL TYPOLOGY

The only vessel whose complete profile could be reconstructed (Fig.1) has a thick flat base and a curved neckless body from which the rim rises vertically. Elsewhere in the assemblage another neckless vessel with a vertical rim and curved body is attested (Fig. no.7); sometimes the rim is slightly everted (Fig.3). Where vessels have shoulders, they tend to be unobtrusive (Fig.6). Two vessels have everted rims with high shoulders and necks (Fig.2 and Fig.10). Most vessels have curved body profiles. Only one (Fig.19) has a straight wall, rising steeply from a thick flat base. Another (Fig.22) represents an attempt at a straight wall, but with a curved shoulder. A departure from the norm is an open hemispherical bowl form (Fig.14). Simple rounded rims are present (Fig. 8 and 23), but more typically they have flat upper surfaces and a squared section (Fig.11 and 15). One rim tapers to give a more pointed tip (Fig.25). Bases are consistently flat, sometimes with a protruding foot to give a waisted profile (Fig.20 and 26). An unemphatically dished base provides a solitary exception (Fig.5).

MANUFACTURE AND DECORATION

All the prehistoric pottery is handmade. The sherd of Belgic pottery might have been expected to be the exception, but too little has survived for one to be able to tell. Several vessels have outer surfaces smoothed by burnishing (Fig.1). Others bear the impressions of textiles that had been used to wipe the inner and outer faces, but most vessels have untreated surfaces. As an assemblage, the middle

Iron Age pottery cannot be said to fall into fine ware and coarse ware components.

The decoration on a late Bronze Age vessel has already been described. Decoration on the middle Iron Age pottery is minimal. The top of one rim bears closely-spaced finger-tip impressions (Fig.3); nail marks are present on the shoulder of another (Fig.6). A few sherds have close-set and shallow fine grooving; the shoulder of one vessel has fine diagonal lines (Fig.18). The deeper grooves of another (Fig.16) recall the east Midlands scored ware found elsewhere in the county (Elsdon 1992).

FABRIC GROUPS

The material was sorted into fabrics on the basis of the inclusions present, their size and frequency of occurrence. As many of the fabrics had two or more inclusions with their own variations in size and incidence, the permutations became extensive and the initial sorting led to the identification of no less than forty-one fabrics. Patently this would have made an indigestible published report and so these forty-one fabrics have been amalgamated to give ten basic groups. Details of the original fabric groupings are available in the site archive.

All the fabrics are micaceous, apart from those tempered only with chalk, and the coarser flint-tempered fabrics. Inclusions are described as temper whether or not there is reason to think they were deliberate additions to the clay by the potter. The only inclusions that can be described as temper in the technical sense are those that do not occur naturally *i.e.* crushed burnt flint (which appears as angular white grains), chopped vegetable matter and grog (crushed pottery). All the fabrics are soft (they can be scratched by finger-nail).

The cores of sherds are invariably black; very often the inner faces are black as well. Some sherds have a black core and surfaces. Otherwise outer surfaces range from light to dark brown; sometimes they are red, or mottled with brown, black and red. Occasionally both the inner and outer surfaces of pots are shades of brown on a black core. This composite description applies to all fabric groups; the only exception is the flint-tempered sherds as half of them had grey or brown cores and surfaces.

Each fabric has been give a letter code based on the initial letter or letters of its inclusions. When fabrics have more than one temper, their initial letters have been amalgamated in alphabetical order.

Fabric CH (chalk)

The chalk grains range from 1-2 mm and are always sparse (< 6 grains per cm2).

Fabric CHFS (chalk + flint + sand)

Chalk grains < 1 mm are sparse (< 6 grains per cm2). So too are the coarse flint inclusions < 2 mm; the sand component is fine, < 0.25 mm.

Fabric CHS (chalk + sand)

The chalk grains are < 1 mm, generally sparse (< 6 grains per cm2), but sometimes moderate in frequency (6-10 grains per cm2). Sand grains are generally fine < 0.25 mm, but sometimes sparse grains (< 6 grains per cm2) up to 1 mm are present.

Fabric CHSV (chalk + sand + vegetable)

The sparse (< 6 grains per cm2) chalk grains are < 2 mm. Sand is always more conspicuous than the chalk. Generally it is fine < 0.25 mm but some sherds have sparse grains (< 6 grains per cm2) < 1 mm. Vegetable matter is consistently sparse.

Fabric F (flint)

The flint can be fine < 0.25 mm and sparse (< 6 grains per cm2). The group includes increasingly coarse fabrics, culminating in dense groupings of flint < 4 mm , with the occasional larger grain. The finer fabrics have well-sorted flint, but the coarser variants are poorly-sorted.

Fabric FS (flint + sand)

The fabric ranges from a fine variant, with sand and sparse (< 6 grains per cm2) flint grains < 0.25 mm, to a coarse version dominated by flint grains < 4 mm, with occasional larger grains, and fine sand < 0.25 mm. Most of the fabrics in this group lie somewhere between these extremes.

Fabric FSV (flint + sand + vegetable)

The flint is coarse, ranging from sparse grains (< 6 grains per cm2) < 2 mm, to grains in the 3-4 mm range. The sand is finer, with grains typically < 0.25 mm; some sherds have sparse (< 6 grains per cm2) to moderate (6-10 grains per cm2) sand < 2 mm. The vegetable temper is consistently sparse.

Fabric G

The fabric is represented by only two sherds, the Bronze Age vessel described above and a sherd of late Iron Age Belgic ware. The latter has a light grey core, with darker surfaces. The grog takes the form of moderate quantities (6-10 grains per cm2) of well-sorted angular black grains < 1 mm.

Fabric S (sand)

There is a fine version, with sand grains < 0.25 mm. Sherds with sand grains 0.25-1 mm are more common, with frequencies ranging from sparse (< 6 grains per cm2) to abundant (> 10 grains per cm2). A coarser version with sparse (< 6 grains per cm2) grains < 2 mm is also present.

Fabric SV (sand + vegetable)

There is a fine version, with sand < 0.25 mm; a coarser variant has sand < 2 mm, with frequencies ranging from sparse (< 6 grains per cm2) to abundant (> 10 grains per cm2). Vegetable matter is apparent as longer or shorter lengths of chopped grass or chaff, readily visible as impressions on both surfaces of pots and in the clay matrix. Such impressions range from the occasional to dense concentrations. There is no correlation between sand grain size and the incidence of vegetable matter. Essentially this fabric is the same as Fabric S but with the added vegetable matter.

Table 2 gives details of the incidence of the nine fabrics identified among the middle Iron Age pottery. The dominance of sand-tempered fabrics is striking. Fabrics S and SV constitute 84.1 % by sherd count and 89.6 % by weight of the pottery. The chronological significance of this is explained below .

fabric group	sherd count	percentage of total	sherd weight	percentage of total
CH	15	2 %	183 g	1.8 %
CHFS	1	0.1 %	18 g	0.1 %
CHS	16	2.2 %	82 g	0.8 %
CHSV	17	2.3 %	133 g	1.3 %
F	14	1.9 %	80 g	0.8 %
FS	36	5 %	371 g	3.8 %
FSV	15	2 %	131 g	1.3 %
S	339	47.2 %	4873 g	50 %
SV	265	36.9 %	3859 g	39.6 %
totals	717		9730 g	

Table 2. Quantification of Fabric Groups for Middle Iron Age Contexts

SOURCES OF THE POTTERY

There is no clay at Abington Park, but chalky boulder clay is available within 3.25 km. All the mineral inclusions found in the pottery (flint, chalk and sand) could have been procured within the same distance. There is every likelihood that the pottery found at Abington Park was made in the neighbourhood. This is borne out by ethnographic research that shows most potters obtain their clays and tempers from within 5 km of their homes, and nearly all of them from within 10 km (Morris 1995,239; 1997,36).

RELATIVE CHRONOLOGY

An assessment of the position of the Abington Park assemblage in the prehistoric pottery sequence for Cambridgeshire can be addressed by considering its relationship with the major groups of early Iron Age pottery from Wandlebury and Linton.

It is immediately apparent that Abington Park does not belong to the Chinnor-Wandelebury or Darmsden-Linton pottery style zones. At Abington Park there is no sign of the tripartite carinated bowls or the tall, high-shouldered carinated jars with straight sides found at Wandlebury and Linton. Their foot-ring bases, lugs, and turned-in rims are also conspicuous by their absence at Abington Park; nor are the haematite-coated vessels and geometric incised decoration found at Wandlebury and Linton present at Abington Park.

The proximity of Abington Park to Wandlebury and Linton prevents explanation of these differences in terms of a contemporary regional style. The Abington Park pottery is different because it is different in date. As the Iron Age unfolds in Cambridgeshire, there is an increase in sand-tempering and a reduction in flint-tempering (Woudhuysen 1998,36-7). The same trend has been reported in neighbouring counties (Martin 1988,34; Sealey 1996,46-7,50) and is indeed typical of much of southern Britain from the middle of the first millennium BC (Rigby 1988,103). Bearing in mind the prevalence of sand temper at Abington Park, its pottery assemblage must be placed after the Chinnor-Wandelebury and Darmsden-Linton styles but before the introduction of grog-tempered wheel-thrown Belgic ceramics at the end of the Iron Age: Abington Park is a middle Iron Age assemblage. The striking extent to which sand-tempered fabrics

dominate at Abington Park shows that it can be regarded as a *developed* middle Iron Age assemblage.

MIDDLE IRON AGE ABSOLUTE CHRONOLOGY

The absolute chronology of the middle Iron Age pottery from Abington Park can be approached by considering what we know of the date of the early Iron Age Darmsden-Linton style that preceded it. Stratigraphic evidence from Lofts Farm (Essex) amply demonstrates its emergence from late Bronze Age wares (Brown 1988). A calibrated radiocarbon date for the Darmsden-Linton pottery from the site gives a date in the 9th century BC, but this is felt to be too early (Needham 1996,255 *pace* Martin 1993,38). Radiocarbon dates are of little help in refining our chronologies for the initial Iron Age anyway because of the relatively flat character of the Pearson and Stuiver calibration curve for the period *c.*750-400 BC (Bowman 1990,55,57). A more fruitful line of approach may lie with Barrett (1978,286-7), who suggested the pedestal bases that developed in Darmsden-Linton pottery were modelled on continental prototypes of 6th century BC and later date. It is reassuring to learn from Dr J. D. Hill that Darmsden-Linton carinated bowls from Fordham (Cambridgeshire) are dated 6th century BC by thermoluminescence. Barrett suggests that pedestal bases may have remained current until the 4th century BC. On this view the Darmsden-Linton straight-sided and high-shouldered carinated jars from North Shoebury (Essex) with a calibrated radiocarbon date of 390 BC-AD 20 HAR-5104 should lie at the earlier part of that date range (Brown 1995,87). It is difficult to argue a case for Darmsden-Linton pottery later than *c.*350 BC and one may take this as a tentative and provisional start date for the middle Iron Age pottery at Abington Park.

The terminal date of the middle Iron Age pottery is equally difficult to establish. Traditionally the last phase of the Iron Age in Cambridgeshire is heralded by the arrival of the wheel-thrown and grog-tempered ware called Belgic (Thompson 1982). The earliest brooch regularly associated with Belgic ware in Britain is the rare *Knotenfibel* or Almgren 65 (Stead 1976,402-10; 1998,345-7), a type found here *c.*70/60-40/30 (Fitzpatrick 1997,204). But the settlement evidence from north of the Thames shows the ware was not present there in significant quantities until the second half of the 1st century BC. In Essex it emerged *c.*50-25 BC (Sealey 1996,55) and in Hertfordshire from *c.*30 BC (Thompson 1982,16). Two coin hoards of the first half of the 1st century BC, from Essex and west London, associated with pre-Belgic pottery, vindicate this view (Sealey 1996,55; Tyers 1996,139-40). Cambridgeshire was on the periphery of the Belgic pottery phenomenon and it is clear from other sites in East Anglia that hand-made wares of middle Iron Age type could survive until the 1st century AD (Martin 1988,34,72; West 1990,63,68; Gregory 1991,158,160,189). There is no reason to postulate Belgic pottery in Cambridgeshire before the middle of the 1st century BC and so the middle Iron Age pottery from Abington Park should fall within the period centred on *c.*350-50 BC.

ABINGTON-DUXFORD POTTERY

When Cunliffe (1968,182) first defined his Darmsden-Linton pottery style zone, a dearth of later Iron Age pottery made him understandably wary about the identification of other regional groupings for the counties between the lower Thames and the Wash. Since then evidence has accumulated but a reluctance to attempt the definition of regional pottery styles for the middle Iron Age of East Anglia has stood in the way of progress.

The middle Iron Age pottery from Abington Park is important because it is a homogeneous group uncontaminated with earlier material and not obscured by subsequent redeposition. A middle Iron Age pottery tradition in south Cambridgeshire awaits satisfactory definition (Woudhuysen 1998,37-8) and Abington Park provides the answer. It is proposed here to call the middle Iron Age wares from the south of the county the Abington-Duxford pottery style zone, named after this site and another where similar pottery has been reported (Lucas 1997,fig.26 nos 4 and 8-11,57-8). Abington-Duxford pottery elsewhere in Cambridgeshire is known from Abington Pigotts (Fox 1924,pl.1), and context 2174 from Site 5 at Foxton. The latter has a parallel for the rare hemispherical bowl form from Abington Park itself (Lucas 1997,59,fig.29 no.9).

Looking south across the county boundary to neighbouring middle Iron Age sites, there are similarities with the large assemblages of pottery from Barley (Hertfordshire) (Ozanne 1961) and Wendens Ambo (Essex) (Hodder 1982,24-9). The major difference is the absence at Abington Park of s-sided bowls and jars with rounded shoulders and everted rims. Abington Park does not have the range of vessels present at Barley and Wendens Ambo but this need only reflect the small size of its assemblage. More research and discoveries will be needed before we can say if the differences between Abington Park and Barley and Wendens Ambo are expressions of geography or date.

EVIDENCE OF USE

Six of the 717 sherds (0.8 %) from middle Iron Age contexts had black deposits. Details are given in Table 3. They consist of thin patches of black matter, sometimes with a cracked surface. One vessel (Fig.11) has them around the inside of the rim, extending down into the body; on another, the material is present at shoulder level (Fig.25). They are always confined to the insides of the pot and give every impression of being the remains of burnt foodstuffs. Examination of such a residue from the middle Iron Age village at Little Waltham (Essex) showed it to be the remains of a vegetable gruel (Evans 1978). A cereal product has also been identified in a burnt deposit on a *c.*AD 40-60 sherd from another Essex site (Evans 1987). Residues of this kind are seldom reported in East Anglia. The region has nothing comparable to Mount Farm (Oxfordshire) where burnt residues were found on 6 % of the Iron Age sherds (Lambrick 1984,169).

PIT OR CONTEXT	FABRIC	SHERD COUNT	DRAWN
Pit 619	SV	1	
Pit 625	SV	2	
Pit 652	S	1	Fig.10
Context 739	SV	1	
Context 746	FS	1	Fig.25

Table 3. Middle Iron Age Sherds with Burnt Deposits

PLACED AND SPECIAL DEPOSITS

Much of the middle Iron Age pottery is abraded material with a low mean sherd weight. The two pit groups that depart dramatically from this norm are described here in full as a contribution to the debate about the significance of pit fills in the Iron Age of southern Britain. Both were excavated in their entirety because of the possibility they held placed deposits.

Scattered throughout context 659 from Pit 633 were thirty-one fresh and unabraded sherds weighing 1468 g from a large jar or bowl (Fig.3). The largest single sherd weighs 322 g but the mean sherd weight is 47.4 g. Eleven of the sherds join. Some 80 % of the rim is present, but nothing of the base has survived. Dr J. D. Hill kindly drew my attention to ethnographic studies which show that after the first breakage of a pot, the base can be put to another use and so the lack of a base here need not have a special significance. There were no other vessels in the context. Sherds from the vessel were not present in the two other contexts with pottery in the pit. Both these other contexts produced four sherds apiece, with mean sherd weights of 8.75 and 11 g.

Context 626 of Pit 619 produced 218 sherds from four pots with a total weight of 4367 g. Its mean sherd weight is 20 g. None of the pots could be restored in their entirety. Details are given in Table 4. The nucleus of the largest single pot - Vessel I - consisted of unabraded sherds stacked on top of each other. Nine of its sherds join and 60 % of the rim is extant. Had the sherds from the pot simply been thrown casually into the pit, it is inconceivable they would have come to rest in such a way: the material represents a *placed* deposit (main report, Figure 18). The only other context in Pit 619 with pottery - context 618, the uppermost fill - had a single rim sherd from the placed pot.

	sherd count	sherd weight	fabric	drawn
vessel I	212	4011 g	S	Fig.1
vessel II	2	270 g	SV	Fig.2
vessel III	3	68 g	SV	
vessel IV	1	18 g	SV	
totals	218	4367 g		

Table 4. Middle Iron Age Pottery from Context 626 of Pit 619

The mean sherd weight from contexts 626 and 659 is 23.4 g, almost three times the figure of 8.3 g from the other middle Iron Age contexts at Abington Park. Common sense suggests - and science confirms - that pottery assemblages with lower mean sherd weights may have had a more protracted history of damage and disturbance since breakage than pottery with higher mean sherd weights. Lower mean weights would also be consistent with movement further away from the original point of breakage (Bradley & Fulford 1980). Evidently the pottery from contexts 626 and 659 found its way there sooner, rather than later after breakage. The likelihood too is that it was smashed not far from the pits in which it was finally discarded. Certainly its history after breakage was different from that of the pottery from most of the other contexts at Abington Park and one is justified in regarding them as somehow special and different.

Placed deposits are rare in Cambridgeshire and neighbouring counties, although now that excavators are actively looking for them one hopes more will be reported. At middle Iron Age Barley (Hertfordshire), Cra'ster (1965,1) noted

how the remains of two pots had been neatly stacked inside each other in a pit. Two more native pots of Iron Age type from a late Iron Age or early Roman enclosure ditch at Thetford (Norfolk) might also represent a placed deposit (Gregory 1991,156,fig.140 nos 2-3).

In the final report on the Danebury (Hampshire) hill-fort there is a candid admission that placed deposits of pottery may have been simply lifted from their excavated context to the finds tray without anyone realising their significance (Poole 1995,249). Archaeological science was initially alerted to the special character of the fills in redundant grain storage pits at Danebury by the anomalous animal and human bone groups retrieved from them. Only later did it become apparent that other components of these pits may also have been deliberately placed there as a ritual act (Cunliffe 1992; 1995,72-88). The implications could be momentous and have been championed with some confidence by Hill (1995). Special animal and human bone deposits are rare in eastern England and it remains to be seen whether pit fills there have the structured deposits claimed for Wessex. Only by publishing pit fills more fully than has hitherto been attempted will we be able to demonstrate the repeated patterns of deposition needed to vindicate faith in regular structured deposition. It was in this spirit that the unusual pit fills at Abington Park were described in such detail.

SUMMARY AND CONCLUSIONS

The excavations at Abington Park produced a small but important assemblage of middle Iron Age pottery. It was not contaminated by earlier material and the abandonment of the site in the Iron Age meant that the character of the pottery of the period is not obscured by subsequent redeposition. Typologically the pottery is quite distinct from the major groups from the neighbouring sites of Wandlebury and Linton. These differences can only be explained by a difference in date. The fabrics at Abington Park are sand-tempered and assign the site to the middle Iron Age. Its pottery defines a plainware style zone for the south Cambridgeshire middle Iron Age called the Abington-Duxford style. Such pottery was current in the period centred on *c.*350-50 BC and has been reported elsewhere in the county from Abington Pigotts, Duxford and Foxton. Although most of the contexts with such pottery at Abington Park only had small and abraded sherds, in terms of sherd count and sherd weight most of the pottery came from two pits. One of them had a placed deposit of large stacked sherds from a burnished bowl.

Fig.1. Fabric S. The core is black, with red surfaces mottled brown and black. Pit 619. Context 626.

Fig.2. Fabric SV. The core is black, with a red inner surface and a mottled light brown, red and black outer surface. Pit 619. Context 626.

Fig.3. Fabric SV. The core and inner surface are black, the outer mottled red and brown. Pit 633. Context 659.

Fig.4. Fabric S. The core and inner surface are black, the outer brown. Context 508.

Fig.5. Fabric S. The core is grey, with light brown outer surfaces. Ditch 518. Context 520.

Fig.6. Fabric SV. Black core and surfaces. Pit 636. Context 540.

Fig.7. Fabric S. The core is black, with red surfaces. Context 582.

Fig.8. Fabric SV. Black core and surfaces. Pit 584. Context 600.

Fig.9. Fabric FSV. The core and inner surface are black, the outer brown. Pit 610. Context 609.

Fig.10. Fabric S. The core and inner surface are black, the outer light brown. Pit 652. Context 617.

Fig.11. Fabric S. Black core, with dark brown surfaces. Pit 652. Context 617.

Fig.12. Fabric S. Black core and surfaces. Pit 652. Context 617.

Fig.13. Fabric SV. Black core, with brown surfaces. Pit 623. Context 620.

Fig.14. Fabric SV. The core and inner surface is black, the outer mottled black, brown and red. Pit 619. Context 627.

Fig.15. Fabric SV. The core and outer surface are black, the inner light brown. Pit 641. Context 639.

Fig.16. Fabric CH. The core and inner surface are black, the outer mottled light brown and grey. Pit 641. Context 639.

Fig.17. Fabric CH. Light brown core and surfaces. Pit 651. Context 650.

Fig.18. Fabric SV. The core and inner surface are black, the outer red. Pit 632. Context 656.

Fig.19. Fabric SV. Black core, with red surfaces. Pit 651. Context 650.

Fig.20. Fabric SV. Black core, with light brown and red surfaces. Pit 732. Context 733.

Fig.21. Fabric FS. The core and inner surface are black, the outer dark brown. Pit 598. Context 587.

Fig.22. Fabric S. The core and inner surface are black, the outer mottled brown and black. Context 739.

Fig.23. Fabric SV. Black core and surfaces. Context 739.

Fig 1: 626/**619**

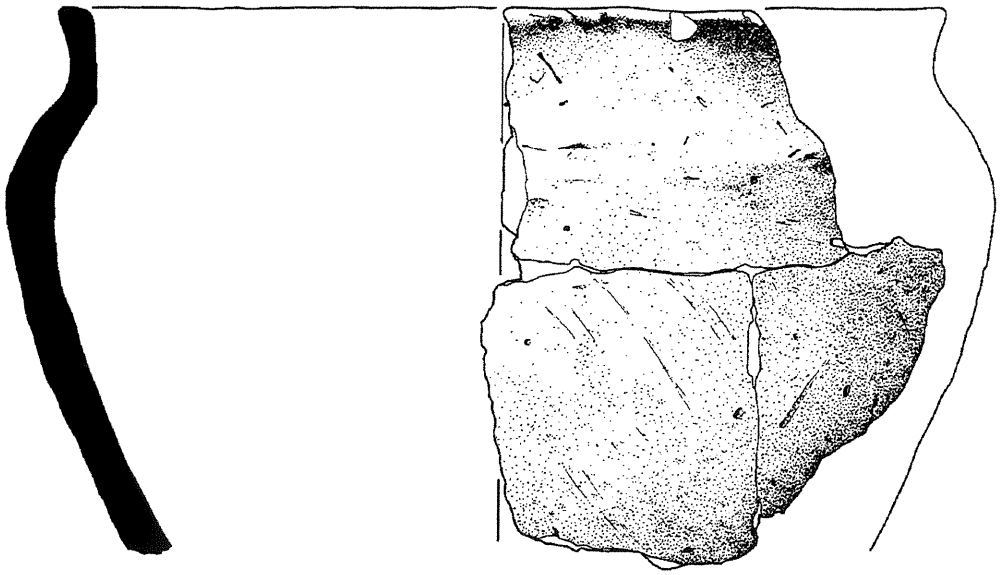

Fig 2: 626/**619**

Pottery illustrations are at 1:2 and are referenced here by Appendix B figure number/context number/**cut number**

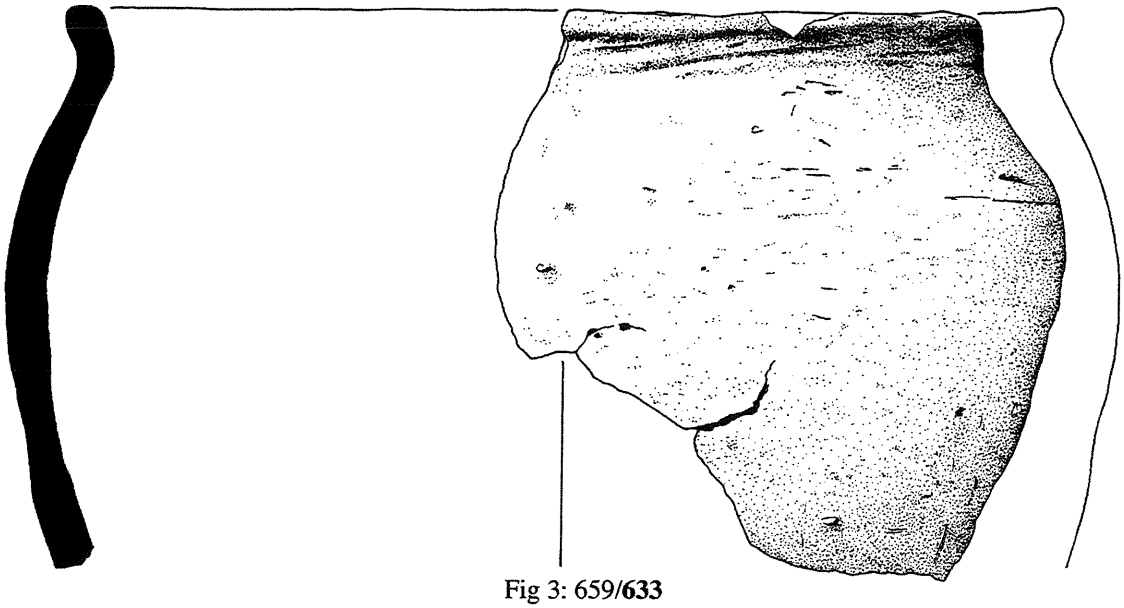

Fig 3: 659/**633**

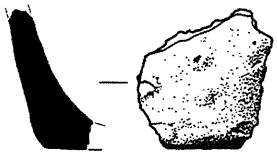

Fig 4: 508

Fig 5: 520/**516**

Fig 6: 540/**636**

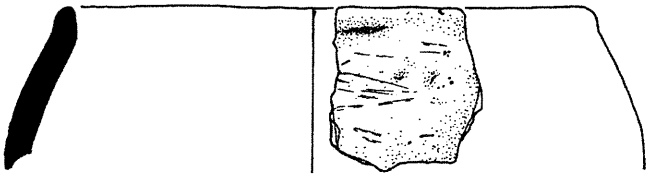

Fig 7: 582/**583**

Fig 8: 600/**584**

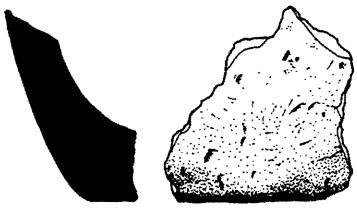

Fig 9: 609/**610**

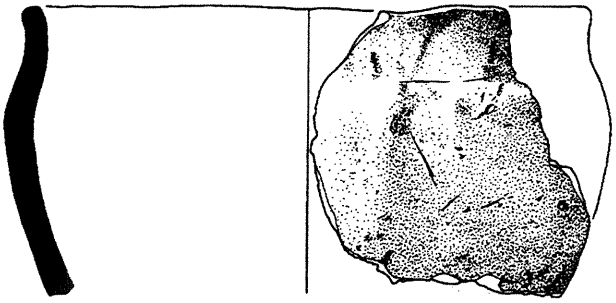

Fig 10: 617/**652**

Fig 11: 617/**652**

Fig 12: 617/**652**

Fig 13: 620/**623**

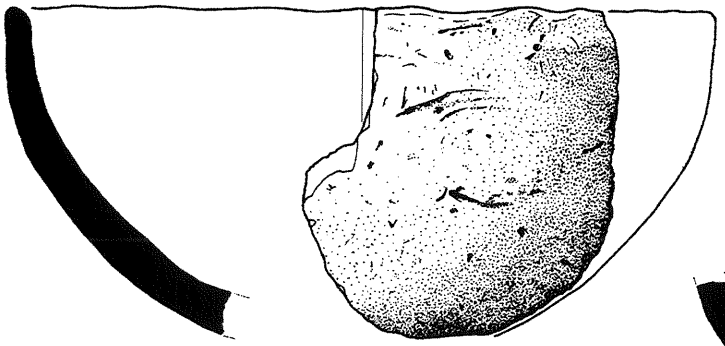

Fig 14: 627/**619**

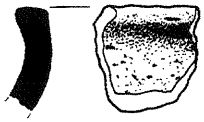

Fig 15: 639/**641**

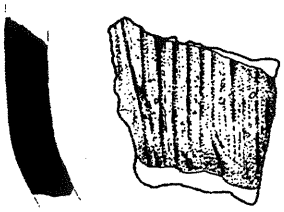

Fig 16: 639/**641**

Fig 17: 520/**516**

Fig 18: 656/**632**

Pottery illustrations are at 1:2 and are referenced here by Appendix B figure number/context number/**cut number**

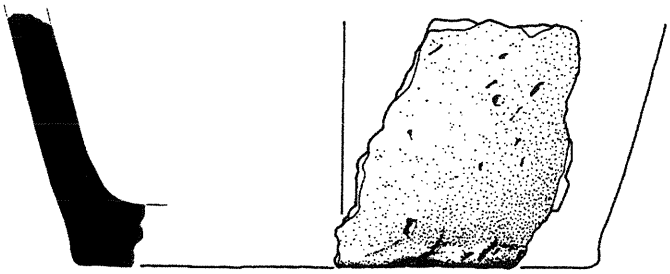

Fig 19: 650/**636**

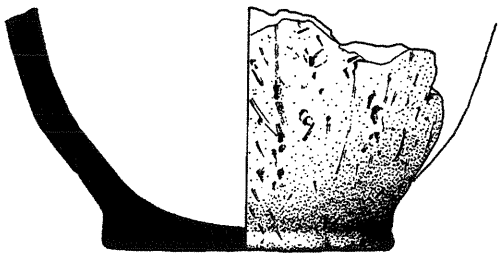

Fig 20: 733/**732**

Fig 21: 587/**584**

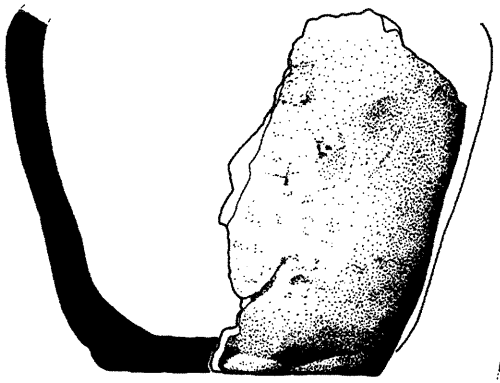

Fig 22: 739/**749**

Fig 23: 739/**749**

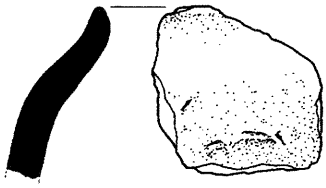

Fig 25: 746/**742**

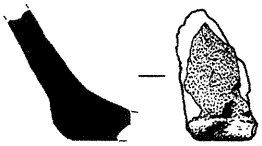

Fig 24: 745/**744**

Fig 26: 745/**744**

Pottery illustrations are at 1:2 and are referenced here by Appendix B figure number/context number/**cut number**

Fig.24. Fabric SV. The core and inner surface are black, the outer dark brown. Context 745.

Fig.25. Fabric FS. Black core, with dark brown surfaces. Context 746.

Fig.26. Fabric SV. Black core, with brown surfaces. Context 745.

ROMAN POTTERY

Twenty-four sherds of Roman pottery weighing 85 g were retrieved; the mean sherd weight is 3.5 g. None of the material can be closely dated and there is nothing of any intrinsic interest. Fabrics represented include Hadham grey ware, Nene Valley colour-coated (both identified by T. S. Martin), and fine and sandy grey wares. A fine grey ware flanged bowl is Going form B6.2, a late 3rd and 4th century type (Going 1987,15). An (unidentified) amphora sherd was also present. Dr S. H. Willis kindly tells me that the samian sherd is Hadrianic to early Antonine and a central Gaulish Lezoux decorated bowl, Drag.37. More details of the Roman pottery will be found in the archive.

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APPENDIX C. ANIMAL BONE.

By Ian L. Baxter

Introduction

A total of 969 bone fragments were recovered from the site, including 116 from samples and 53 belonging to associated bone groups (ABGs). In the hand-collected assemblage of 800 fragments, with ABGs counted as one fragment, 25% could be identified to species. A further 36% of fragments were identifiable as belonging to Large Mammal or Medium Mammal and can be combined with cattle and sheep/goat respectively for most purposes (Table 1). The ages of horses, cattle and sheep/goats based on tooth wear are presented in Table 2, withers heights for cattle and sheep in Table 3, where remains can be sexed this information is given in Table 4, teeth in approximate order of eruption in Table 5, and bone measurements in Table 6. Appendix 1 lists the contents of pits containing artefacts, complete pots, ABGs and/or unusual species. This is intended as an aid in the analysis of evidence for structured deposition of pit fills in the sense of Hill (1995). The total assemblage of animal bones is too small to draw any meaningful conclusions regarding the husbandry regime of the settlement associated with the pits and other features comprising the present study. The condition of the bone is generally too poor to have preserved knife marks caused by butchery with bone surfaces are eroded and etched by roots.

Methodology

Bone was identified by comparison with published descriptions (in particular Schmid 1972, Boessneck 1969, Sisson and Grossman 1953, Prummel and Frisch 1986, Clutton-Brock et al 1990, Gasc 1966), and reference material in the author's collection and the collections of Leicester City Museums. Bone measurements are based on von den Driesch (1976). Long bone fragments without diagnostic features, rib fragments and vertebra fragments indeterminate regarding species are recorded as Large Mammal and Medium Mammal.

Species representation

Horse	*Equus caballus* L.
Red Deer	*Cervus elaphus* L.
Cattle	*Bos* f. domestic
Pig	*Sus* f. domestic
Sheep	*Ovis* f. domestic
Sheep/Goat	*Ovis/Capra* f. domestic
White-tailed Eagle	*Haliaeetus albicilla* (L.)
Toad	*Bufo bufo* L.

Notes on the species

Horse

The remains of horse are relatively common in this assemblage comprising 8.4% of identifiable fragments from the hand-collected bone. No bones are sufficiently complete to estimate withers heights, but jaws and isolated teeth from a number of features provide ages at death for up to seven individuals (Table 2). They range from an animal of 2½ to 3 years represented by an unworn upper P3 found in pit [619] (618) (Amorosi 1989) to a probable stallion over 15 years old from [32] (31) (Barone 1980, Levine 1982, Sisson and Grossman 1953). A third metatarsal found with the proximal Mt.II and IV in pit [41] (22) may constitute an associated bone group (ABG). The horses are likely to have been small animals of around thirteen hands and were probably used as mounts and pack animals.

Red Deer
Only one red deer bone was recovered, a phalanx II from pit/post hole [711] (708).

Cattle
Cattle are the dominant faunal element at this site accounting for over 50% of fragments identified to species. Most of the long bone fragments only identifiable as large mammal probably also derive from cattle. Two bones were complete enough to provide withers heights: a humerus from pit [17] (15) from a beast 107.8 cm at the shoulder (Matolcsi 1970), and a metatarsus from pit [619] (626) from an animal 105.7 cm high at the shoulder (Fock 1966). A humerus with the proximal epiphysis unfused from [14] (9) came from a much larger animal, probably an ox. A horn core from pit [742] (743) also derived from a castrate on the basis of its morphology (Armitage and Clutton-Brock 1976). This beast was a small horn, the Celtic cattle or "*Bos longifrons*" of earlier authors. An innominate fragment from pit [619] (626) derived from a male animal (bull or ox) on the basis of the medial rim height of the acetabulum and the morphology of the ilio-pubic ridge (Grigson 1982; Table 4). The bones of juvenile animals were recovered from pit [633] (659), (692) and pit [742] (743). A mandible fragment of a calf aged about 6 months came from [641] (639), a mandible from a beast under 12 months from [584] (587), and a mandible from an individual under 15 months from [17] (15). The only mandible of a beast over three years came from (543) and most of the teeth recovered are from animals under two years old (Tables 2 and 5), but mature cattle are well represented by postcranial remains at the site.
The only butchery marks noted occurred on cattle or probable cattle bones. A mandible fragment from pit [677] (672) has had the crowns of the teeth chopped off, probably during removal of the jaw from the skull, and a rib fragment from pit [749] (739) has transverse chop marks.

Pig
Pig remains comprise less than 6½% of fragments identified to species. Most of the pig fragments occur in a single feature, pit/post hole [711], 9 out of 13 fragments or 69% of the total representing at least two individuals. Young animals are represented by a tibia fragment from pit [651] (650) and unerupted tooth germs from [711} (708). No indication of the size of the pigs can be obtained from the elements recovered.

Sheep/Goat
The remains of sheep/goat comprise the second largest assemblage from the site, over 34% of fragments identified to species. The 137 fragments classified as medium mammal probably also belong to sheep/goat. Many remains are from animals under two years old, including a neonate humerus shaft from pit [623] (620) and mandibles from animals of under 9 months from [749] (739), [752] (751) and [605] (604). Older animals are represented by several mandibles (Table 2) and postcranial remains from a majority of contexts. The partial skeleton of an adult ewe over five years old was found in pit [17] (15), and may have been a structured deposit of possible ritual significance (see below). This individual stood approximately 58.5 cm high at the shoulder based on measurement of the left femur (Teichert 1975). No fragments were identified as goat.

Dog
Although no remains of domestic dog were recovered from the site, the former presence of this species is evident from the gnawing of bones from the other species. Of the total number of bones identified to species, at least 5% have been gnawed by dogs. ,

Eagle
An unusual find from a sample taken from pit [641] (639) was a terminal phalanx (claw-bone) of digit IV from a white-tailed eagle (*Haliaeetus albicilla*). The largest of the native raptors, the white-tailed eagle was once widespread in Britain frequenting lowland waterside habitats within range of tall trees (Baxter 1993).

Toad
Two bones of common toad (*Bufo bufo*) were found in a sample from pit [623] (622).

Associated animal bone groups, structured deposition and ritual behaviour

In her analysis of the Danebury animal bones, Grant (1984a: 533) distinguished three main types of "special animal deposits":

1) Animal Burials: fully or mainly articulated skeletons with *no sign of butchery*, not even skinning, often carefully placed in a pit. Sometimes the animal has been beheaded, and the skull displaced.
2) Skulls: complete or near complete skulls. Grant also included complete horse mandibles in this group.
3) Articulated limbs: complete articulated limbs, or articulated portions of limbs. The occurrence of articulated groups of limb extremities may suggest the deposition of an animal skin.

Grant (1984b, 1984c, 1989, 1991) and Wait (1985:125) subsequently elaborated the concept of "special animal deposits". Maltby (1985:103-4) recognised the following categories of associated groups at Winnall Down:

1) The burial of complete or substantial parts of a carcass with *little or no evidence of butchery*.
2) The burial of foetal or neonatal carcasses.
3) Small groups of associated/articulated bone such as parts of limbs and vertebral columns.

Subsequent to these studies Hill (1995) has undertaken an exhaustive study of structured and ritual deposition in Iron Age Wessex, and reached the conclusion that many deposits on Iron Age sites probably had ritual significance. It was in view of these studies that the total assemblages of features containing ABGs, artefacts, complete pots and unusual specimens were recorded in Appendix 1.

The most significant associated animal bone group (ABG) at Abington Park is the partial skeleton of a mature ewe found in pit [17] (15). The skeleton is substantially complete but minus the head, neck and feet. *In situ* photographs and drawings indicate that the limbs were still articulated at the time of deposition, but that only one side of the rib cage was deposited and that this was separated from the vertebral column. No butchery marks could be identified due to the fragmentary state of the remains and the poor surface condition of the bones, which were eroded and strongly etched by roots. However the carcass was at least partly dismembered when placed in the pit. A more complete sheep burial, also of a mature ewe, at Fordham (Baxter unpublished) was apparently skinned and gutted before being deposited but otherwise unbutchered. It is unlikely that significant amounts of meat would have been removed from the carcass in pit [17] without more thorough dismemberment. Such wastage of meat is unusual and implies some possible ritual significance to the deposit.

The three horse metatarsal elements recovered from pit [41] (22) probably have no ritual significance and owe their preservation together to being still attached by sinews when deposited.

The animal bone from pit [619] is only remarkable as one of the largest bone groups recovered from the site and would not have attracted particular attention except for the iron knife and complete pot found in (626). The same is the case with the animal remains from pit [633] which had a complete pot in (658/659) and pit [732] which had an iron knife in (733).

Possibly more significant from the point of bone deposits is pit [641] which, amongst a few otherwise unremarkable bone fragments, contained the talon of a white-tailed eagle. Although more widespread in prehistory than in the recent past this bird would never have been common. Eagle symbolism intensified after the Roman conquest, but eagles may have had solar and shape-shifting attributes in earlier Celtic belief systems (Green 1997:88-9).

Summary and conclusions

With such a small assemblage little can be said regarding the husbandry regime of the settlement associated with the pits. Some form of mixed farming was practised and cattle were the most important stock animals both in terms of numbers and meat yield. The cattle were small animals with very small horns typical of Iron Age sites. Sheep were next in importance and many were probably slaughtered before they reached two years, although a significant number were kept beyond this age as breeding stock and perhaps for wool and milk. Pigs were also kept in wooded areas. Horses were used as mounts and pack animals. Red deer were occasionally hunted for meat and skins and white-tailed eagles fished in the nearby River Granta. The partially dismembered skeleton of a mature ewe in one pit, and the talon of a white-tailed eagle in another provide possible evidence for ritual activity.

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Table 1. Number of fragments per species (NISP).

Taxon		**Hand-collected**	**Samples**	**Total**
Horse	*Equus caballus* L.	17 (19)	0	17 (19)
Red Deer	*Cervus elaphus* L.	1	0	1
Cattle	*Bos* f. domestic	102	3	105
Pig	*Sus* f. domestic	13	0	13
Sheep/Goat	*Ovis/Capra* f. domestic	69 (120)	0	69 (120)
Large Mammal		161	1	162
Medium Mammal		128	9	137
Eagle	*Haliaeetus albicilla* (L.)	0	1	1
Toad	*Bufo bufo* L.	0	2	2
Indeterminate		309	100	409
Total		**800 (853)**	**116**	**916 (969)**

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Table 2. Ages of the Domestic Animals

Horse Ages (Barone 1980, Levine 1982, Sisson and Grossman 1953)

Cut	Context	Skeletal element	Crown Height	Age	Comments
41	22	Upper I2		c.5-6 yrs	
32	31	Mandible	P3= 27.0 mm	15+yrs	age based on incisor wear and P3 crown height
	64	Lower P3	35.4 mm	11 yrs	
41	40	Upper P4	73.0 mm	c.6 yrs	
550	507	Lower I2		c.7-8 yrs	
584	599	Lower P4	70.0 mm	c.6 yrs	
619	618	Upper P3		2.5-3 yrs	unworn

Cattle MWS (Grant 1982)

Cut	Context	MWS		Age
17	15	[e/f]gC	13	<15m
584	587	[h]bC	8	<12m
	543	kk-	42-44	>36m
619	626	[k]-	23-26	<28m
641	639	a	6	c.6m

Sheep/Goat MWS (Grant 1982)

Cut	Context	MWS		Age
	714	_fa	30	18-24m
749	739	[g]cC	9	<9m
742	743	(j)hga	37	>24m
752	751	[h]eV	12	<9m
742	805	(j)hg-	37	>24m
584	600	hfb	31	>24m
605	604	[g]c-	11	<9m
605	604	hd-	23-24	<18m
685	684	hfe	34	>24m

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Table 3. Withers Heights

Cattle (Fock 1966 and Matolcsi 1970)

Cut	Context	Skeletal element	Withers Height (cm)
17	15	Humerus	107.8
619	626	MT.III+IV	105.7

Sheep (Teichert 1975)

Cut	Context	Skeletal element	Withers Height (cm)
17	15	Femur	58.5

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Table 4. Sex of the domestic animal remains

Horse (based on Sisson and Grossman 1953)

Cut	Context	Skeletal element	Sex	Comments
32	31	Mandible	male	canine present

Cattle

Horn Cores (based on Armitage and Clutton-Brock 1976)

Cut	Context	Type	Sex
742	743	small horned	ox

Pelvic measurements/sexing (based on Grigson 1982)

Cut	Context	rim height medial acetabular border	ilio-pubic ridge	Sex	Comments
619	626	12.0 mm	rounded	male	includes dip

Sheep

Pelvis (based on Boessneck 1969; Prummel and Frisch 1986; Clutton-Brock et al 1990)

Cut	Context	ventral muscle ridge on ilium	ilio-pectineal eminence	depth of acetabular rim	ilio-pubic ridge	Sex	Comments
17	15	yes	sharp	not preserved	not preserved	female	skeleton ABG

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Table 5. Teeth in Approximate Order of Eruption

Ages after Silver (1969) m = months
U = Unerupted/Deciduous S/W = Slight Wear H/W = Heavy Wear

	U	S/W	H/W	
Cattle				
M1 5-6m	1	1	2	
M2 15-18m	2	1	1	
P2 24-30m	4			
P3 18-30m	5		1	
M3 24-36m				
P4 28-36m	5		1	
Totals	**18**	**2**	**5**	**25**
Sheep/Goat				
M1 3-5m		4	7	
M2 9-12m	2	5	5	
P2 21-24m	5		1	
P3 21-24m	8		1	
M3 18-24m		7	1	
P4 21-24m	5		3	
Totals	**20**	**16**	**18**	**54**

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Table 6. Bone Measurements

(based on von den Driesch 1976)

Bovid Measurements

Horn core

Cut	Context	L/R	44	45	46
742	743	R	125.0	41.7	33.7

Humerus

Cut	Context	L/R	GLC	SD	Bd	BT
14	9	R		35.1	82.7	73.8
17	15	R	226.0	33.2		67.0
41	40	R			76.6	67.4

Radius

Cut	Context	L/R	SD	Bd
14	9	L	39.8	74.8

MT.III+IV

Cut	Context	GL	Bp	MSD	Bd
619	626	194.0	41.5	23.5	46.7

Centrotarsale

Cut	Context	GB
633	659	45.0

Caprid Measurements

Scapula

Cut	Context	L/R	SLC	GLP	LG	BG
17	15	L	18.4	28.5	23.6	18.0

Humerus

Cut	Context	L/R	GLC	SD	Bd	BT
14	9	R		10.8	29.6	23.1
17	15	L	118.6	13.7	26.7	25.5
17	15	R	119.2	13.4	27.4	25.3

Radius

Cut	Context	L/R	Bp	BFp	SD
17	15	L	27.3	23.8	14.9

Femur

Cut	Context	L/R	GL	Bp	DC	SD	Bd
17	15	L	165.8	40.2	18.0	14.7	25.3

Tibia

Cut	Context	L/R	Bp	SD
17	15	R	36.0	13.0

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Appendix 1. Breakdown of features containing associated animal bone groups (ABGs), unusual specimens, artefacts or whole pots

Cut	Context	Species	Number of fragments	Comments	Artefact/Pot
17	*15*				
		Cattle	3		
		Pig	1		
		Sheep/Goat	55	***incl. ABG of ewe >5yrs***	
Total			**59**		
41	*22*				
		Horse	4	***ABG: Mt.II-IV***	
		Total	**4**		
	39				
		Indeterminate	5		
		Total	**5**		
	40				
		Horse	1		
		Cattle	5		
		Large Mammal	2		
		Medium Mammal	3		
		Indeterminate	20		
		Total	**31**		
Total			**40**		
619	*618*				
		Horse	2	incl. Unworn upper P3	
		Cattle	2		
		Sheep/Goat	1		
		Medium Mammal	4		
		Indeterminate	13		
		Total	**22**		
	626				**Iron Knife and Pot**
		Cattle	8	incl. Complete Mt.III+IV	
		Pig	1		
		Sheep/Goat	5		
		Large Mammal	9		
		Medium Mammal	6		
		Indeterminate	30		
		Total	**59**		

Appendix 1 cont.

Cut	Context	Species	Number of Fragments	Comments	Artefact/Pot
619 cont.					
	627				
		Sheep/Goat	1		
		Medium Mammal	2		
		Total	**3**		
	673				
		Cattle	2		
		Large Mammal	1		
		Medium Mammal	3		
		Indeterminate	1		
		Total	**7**		
Total			**91**		
633	*657*				
		Medium Mammal	1		
		Total	**1**		
	658				**Pot in (658/659)**
		Cattle	1	sampled	
		Large Mammal	1		
		Medium Mammal	2		
		Indeterminate	44		
		Total	**48**		
	659				
		Cattle	3		
		Sheep/Goat	1		
		Large Mammal	4		
		Medium Mammal	2		
		Indeterminate	10		
		Total	**20**		
Total			**69**		

Appendix 1 cont.

Cut	Context			Comments	Artefact/Pot
641	*639*			sampled	
		Cattle	4		
		Sheep/Goat	4		
		Large Mammal	4		
		Medium Mammal	2		
		Eagle	1	***rare avian species with possible magico-religious significance***	
		Indeterminate	27		
Total			**42**		
732	*735*				**Iron Knife in (733)**
		Medium Mammal	1		
		Total	**1**		
	738				
		Large Mammal	1		
		Medium Mammal	1		
		Total	**2**		
Total			**3**		

APPENDIX D. THE LITHICS ASSEMBLAGE.

Twigs Way PhD, MA, BSc, AIFA

Introduction

This report follows from the initial analysis of the lithic assemblage collected during excavations at Abington Park, Great Abington in 1998. The assemblage was collected from both the main excavation area and from a series of test pits. At the time of writing no phasing plans were available for the site and the assemblage is therefore discussed as a single assemblage, although there are indications of chronological separation. This is the third phase of archaeological investigations at Abington Park and similar specialist reports on the lithics assemblage have been produced for the previous two stages (see Bray and Way 1997). It is expected that a final report will be produced which will contain discussion of the entire lithics collection for the site, the present report therefore concentrates on the lithics from the 1998 phase of excavation with only occasional reference to material recovered in earlier phases.

The Lithic Assemblage from the Main Excavations

Introduction

A total of 237 flint artefacts were recovered from the main area of excavation. This includes material from Context 500 (cleaning/topsoil), but not from Contexts 500 and 501 where they were indicated as being within test pits. Artefact collection took place both immediately post-machining and during follow up excavation, with context numbers allocated at each stage to discrete features.

Excluding material recovered from the excavation surface and from layer 511 (alluvium), material was recovered from 56 different contexts. In the majority of cases density was relatively low, with only 15 contexts containing 5 or more lithic artefacts. It is probable that much of the material from these 'low density' features is merely 'incidental' to the fills. Exceptions to this are discussed below. The overall impression is of a relatively mixed assemblage of material dating predominantly from the Neolithic/EBA with some later Iron Age material- exceptions being two probably Palaeolithic pieces and some late mesolithic material in the form of bladlet core and bladelets.

Typology

Unlike the material collected from the earlier phases of fieldwalking and evaluation the assemblage did not appear to have suffered extensive edge damage and rolling, with the exception of pieces from contexts 500. This resulted in easier identification of artefact typology .

The 237 pieces collected from the main area of excavation may be classified as follows:

Type	Number	Percentage
Chips :	60	25.5%
Flakes:	78	33%
Blades/bladelets/blade frags:	57	24%
Cores and core frags:	16	7.5%
Classifiable tools and retouched pieces:	23	10%

It is interesting to note that the percentage of tools and retouched pieces was similar to the excavations carried out in Test Pit 30 of the 1997 evaluations (10% and 7.9% respectively), whilst the percentages for cores and core fragments were 7.5% from the 1998 excavations and 10% from the 1997 evaluation (excluding fieldwalking element).

Flakes and Blades:

Technically the assemblage may be classed as flake dominated, however this disguises some variation between features.

Both flakes and blades/bladelets appear to have been removed using a mix of hard and soft hammer, although some of the possibly Iron Age material is typically hard hammer and 'coarser' in style (eg. within context 545). The small collection of bladelets within context 620 would appear to be soft hammer.

The size range of the majority of the pieces fell within the below 60mm range, consistent with 1997 result; and the source material appears to have been predominantly river gravels. Two exceptions to this size range were long blades found in context 527 (111mm), and SF 100 (113mm). These two pieces differed considerably from the rest of the assemblage and appear to be Upper Palaeolithic in date.

Cores and core fragments:

The cores and core fragments are varied, with several multi-platform flake cores/fragments, 3 multi-platform bladelet cores/fragments, and a single keeled core. The bladelet cores/fragments are typically worked out and of a smaller size range than the flake cores. One of these (context 500) is very close in type to several found within the 1997 stages of evaluations and fieldwalking. The keeled core (context 626) also has parallels within the previous assemblages. The vast majority of the cores and fragments suggest maximum sixes of 60mm at time of discard, whilst the single plunging blade gives a core length of 71mm. It is interesting to note that no hammerstones were identified/curated during the excavations.

None of the cores collected from the site could have formed the sources of the long blades found within contexts 527 (111mm), and SF 100 (113mm). The cortical blade found in context 805 is also unusually long for the core material recovered (74mm).

Classifiable tools and retouched pieces:

There were 18 classifiable tools and other retouched pieces.

awls	2
fabricator	1
burin	1
backed pieces	2
arrowheads	2 (one unfinished poss. chisel, one broken frag.)
end scraper	5
side scraper	2
side and end	1
scraper frag.	1
unclassifiable	5

The majority of the pieces would fit comfortably within an assemblage dating to the late Neolithic/EBA with the rest perhaps somewhat later. It is notable that

there were no microliths, thumbnail scrapers or other classifiably Mesolithic tools within the assemblage, unlike the assemblages from the earlier stages.

Pieces recommended for further analysis and/or illustration are highlighted within the archived lithic report.

Raw Material

material was predominantly locally derived gravel flint from the underlying riverterrace. A pale grey/brown pinkish opaque flint formed the material for several pieces, including a fine scraper, and may indicate an alternative source. In addition the longer Upper Palaeolithic blades described above are unlikely to have come from material normally recovered from within the local gravels - although they may have come from exceptionally large river gravel derived nodules.

APPENDIX E. THE IRON KNIVES.

By Brian Gilmour.

Introduction

Out of the total of 61 pits found on this site during excavation work (ABG AP 97/98) in late 1997 and early 1998, 43 were excavated. Four of these pits were found to contain placed or votive deposits. In each of two pits were found the two knives investigated in this report, while each of the other two pits contained the broken remains of two pots. These were not abraded and have been dated stylistically to the early or middle Iron Age. The purpose of this investigation was to identify the ferrous alloys used to make these knives and to examine the construction methods used.

Description, condition and x-ray examination

These knives were of two entirely different types although both blades were crescentic in shape (Fig 1). The shorter, wider of the two blades was distinctive both in the form of the blade as well as having an unusual tang. It would appear that this was a specialized combination knife with two cutting edges, one convex in shape and the other concave. Instead of the usual tang the top end of the blade was narrowed, mostly on one side, forming a flat, rectangular tab, 24 mm wide by 20 mm long, on either side of which the rest of the hilt was fastened by means of two iron rivets (one behind the other along the central line of the tab) which survived in place. From this it would seem likely that the knife was complete with a more perishable handle, probably wood or possibly horn. The curved shoulder between the hilt tab and the upper end of the convex cutting edge was shaped like a quarter circle, and also the hilt tab was slightly narrower or waisted towards the blade. The blade complete with its hilt tab measured 110 mm long with a maximum blade width of 34 mm.

The second knife slightly less prominently crescent-shaped and was longer and narrower than the first. It was also single-edged, with a gently concave curving back, and also had the much more usual tapering tang on which the handle had been mounted. In total the tang plus blade was 148 mm long with a maximum blade width of 16 mm. Again it seems highly likely that this knife was buried complete with its organic hilt, probably a wooden or horn handle, although no mineral preserved organic remains could be seen on either knife. At most both blades were about 3 mm thick.

Although both blades were fairly heavily corroded and encrusted with iron corrosion products, survey with a magnet and a small metal detector suggested that each knife had a sound inner core of metal surviving along most of its length and width. This was confirmed by x-radiography, although as expected this showed the corrosion to be uneven, some of the thinner parts of both blades having corroded right through in places, mainly along the edges. Radiography did not reveal any sign of welds although one unsuspected feature revealed on the combination knife was a small circular hole (2 mm in diam) right in the centre of the hilt tab, in between the two rivets (Fig 2). This hole had filled up with less dense corrosion products and therefore was not visible except on x-ray. There seems to be no obvious purpose for this hole except possibly for suspension.

Metallographic examination

To work out the actual structure of the two knife blades two wedge-shaped sections were cut from each blade so that a composite transverse section across each blade could be achieved without cutting the blades in half. This was done with a narrow, diamond-tipped cutting disc and then the samples were mounted and polished ready for metallographic analysis. It was clear even before etching that the structure of each blade was completely different.

Single-edged knife (context 733, small find 101)

Many small slag inclusions were visible across the unetched blade and back sections (HM26A and B) of the longer single-edged knife. These were distributed in parallel broken lines running across each section from the back to the tip of the blade, already giving a rather banded appearance to the sections. A few, larger, partially flattened inclusions could also be seen, and these were aligned in the same direction. Most of the inclusions appeared to consist of a mixture of two darker grey phases, possibly a mixture of fayalite (iron silicate) and a glassy phase. A few of the inclusions contained a small proportion of wüstite (iron oxide), a distinctive, paler grey third phase.

After etching (with nital) a very distinctive banded structure showed up (Fig 3). This gave a laminated appearance to the blade in transverse section although it is not quite so obvious how this was achieved. Across most of both sections the wider pale bands consisted of large grain ferrite (plain iron) with the intermediate, narrower, darker bands consisting of a relatively slower etching, mainly martensitic structure. This is clearer at higher magnification at which the martensitic areas can be seen to be mixed with a small proportion of a dark-etching, nodular constituent, probably a nodular form of pearlite (Fig 4). Near the back of the blade, on one side, a broader, mainly martensitic band also showed up although this was striated with ferritic streaks.

A series of Vickers microhardness readings for the different structures visible in the banding were taken using a 100 gm loading (expressed as 0.1). Micro-hardness for the martensitic bands was found to vary between 572 and 657 HV(0.1) with a mean value of 622 HV. This and the visible etched structure would suggest that the darker bands consist of a medium carbon steel (carbon content approximately 0.4%) and that the knife blade was quenched in cold water and possibly very lightly tempered following the final heating cycle. The Vickers micro-hardness of what appear to be more-or-less carbon-free ferritic bands was also measured in several places with readings varying between 132 and 149 HV (0.1) with a mean value of 141 HV. This is slightly higher than would normally be expected for plain iron (approximately 100 HV or a bit less) and would suggest the presence of a relatively small proportion of some other alloying component within the iron, phosphorus being probably most likely.

The banded nature of this blade suggests a layered or piled structure, but the very striated appearance is probably misleading. Up to about 0.2 phosphorus in the pale ferritic bands would help to explain both their large grain structure, higher than expected hardness and the lack of carbon diffusion from the adjacent higher carbon bands (Fig 5). The iron must contain some impurity which is preventing carbon diffusion across the thickness of the blade and

phosphorus is the most likely candidate, given how commonly it occurs in iron ores in this country and how easily it reduces with the metal during smelting. Some of the many parallel lines of slag inclusions might represent welds although the streaky appearance of much of the metal is just what may be expected of an extensively forged piece of iron with very uneven distributions of both carbon and phosphorus. In fact it is hard to see how else medium carbon steely streaks could be achieved in an otherwise ferritic background, with little or no carbon gradient between the two.

There do however seem to be broader bands or zones where the striated appearance looks more or less pronounced in adjacent areas, suggesting that some parts of the metal have been more extensively forged than others (Figs 3 & 5). This suggests that there is likely to have been some degree of cutting and/or folding over followed by welding and more forging which has further exaggerated the stretched-out, striated appearance within the bands. Although there are no very obvious welds the differences in appearance in the etched section, particularly towards the back of the blade, would suggest that up to six pieces may have been welded together to make up the full thickness of the blade, with perhaps one having been lost to corrosion Fig 6.

Although the striated appearance in section is very striking, with the mainly streaky martensitic (ie medium carbon steel) and ferritic (ie plain iron) areas distributed the way they are, it is less easy to see exactly why the structure should be like this. One possibility is that it was intentional, perhaps to produce an interesting pattern-welded appearance (which would undoubtedly have resulted given final polishing and suitable etching), although it seems to me that the structure is too uneven to suggest that the smith had this in mind when making the blade.

Another clear possibility is that the iron from this blade was intended to be a more steely material. It may well have been smelted from an ore with an uneven but generally too high a phosphorus content to allow a more steely bloom to be produced, even with furnace conditions that might normally (ie with a low phosphorus ore) have been sufficiently reducing to result in a bloom with a greater proportion of steel. Further work would be required to investigate the phosphorus levels in this knife blade.

Overall, the latter possibility seems the most likely explanation for the rather curious striated structure seen in this knife blade. As yet there is no evidence that banded structures like this were being exploited for their decorative surface potential even as early as the late Iron Age for objects like knives. However, the interesting possibility remains that it was accidentally produced structures like this which eventually gave rise to the exploitation of composite ferrous construction techniques designed to produce decorative effects, and hence the development of pattern-welding which was certainly being used for swords in north-west Europe by the late iron Age.

However interesting and valid these possibilities might be, it seems most likely that this knife was made from metal all originating from a single incompletely steeled bloom, probably resulting from the use of less suitable ore. As such it can be seen as the result of a partially successful example of early steelmaking. Even more successful steel blooms would probably have required the kind of extensive forging seen here to even out the carbon content.

Although it may have been the product of less successful steelmaking, the martensitic bands would have made it more wear-resistant and therefore to have retained its cutting edge much better than if a low carbon (or low phosphorus) iron had been used on its own so perhaps this knife should be regarded as a relatively successful example of iron-smithing work.

Double-edged (combination) knife (context 626, small find 104)

Although the form of this knife is more unusual the structure of the blade was not. A much more irregular distribution of slag inclusions was seen across both sections before etching. Many fewer inclusions were visible this time although there was a similar variation in size and appearance. In fact the inclusions looked remarkably similar to those seen in the longer knife, and again very little iron oxide (wüstite) was visible.

After etching a very different structure showed up. This blade mostly consisted of a very fine grain low carbon iron, mainly ferrite with some pearlite, and a carbon content of approximately 0.1 to 0.2% (Fig 7). With a carbon content this low quenching would have had little effect and in any case seems not to have been attempted as a means of hardening the metal of the blade. In a few places the carbon content was lower, and in one or two localized patches it was actually a little higher (perhaps as high as 0.3 or 0.4% carbon) and in these areas, of which one is illustrated here (Fig 8) the grain structure is also larger, although what actually shows up in these darker areas is a widmanstätten distribution ferrite infilled with partially spheroidised pearlite (Fig 9).

Right across the section the pearlite is partially spheroidised indicating that, rather than being quenched after final forging, this knife was annealed below about 700° C (a just visible dull red). The spheroidisation was not far advanced suggesting that the knife may have just been left for a relatively short time in a relatively cooler part of the smiths hearth before being taken out and allowed to cool fully.

The metal for this knife blade may have been smelted with a low carbon iron in mind, its lower and higher carbon patches being simply inconsistencies finally left over after all the forging that the metal has undergone. Vickers microhardness values for the largest ferritic area came out at 121 and 127 HV (0.1), perhaps a little high for plain iron and probably suggesting the presence of small proportions of alloying impurities, although probably not phosphorus as carbon diffusion across the section seems to have been fairly complete. For the rest of the two sections the hardness values varied between 132 and 184 HV (0.1) with a mean value of 151 HV, again slightly higher than would be expected for a low carbon iron with up to about 0.2% carbon and possibly also the result of background impurities.

Conclusions

The shorter, two-edged knife seems to be the more typical product of low carbon, bloomery iron production, either where the furnace conditions have been insufficiently reducing to produce more than a small proportion of steel in the bloom, or where the steel parts of a more highly reduced iron bloom have been separated and used for something else, leaving the low carbon iron used in this knife. With the current state of knowledge it is difficult to say which is most likely. What can be said is that a blade with a cross- sectional appearance like this is

very unlikely to have been produced by secondary carburisation of plain bloomery iron.

Although the longer knife is very different in its final structure, it is almost certainly also just made of a single piece of bloomery metal. In this case, however, the intention does seem to have been to produce a steel although the attempt appears not to have been all that successful, probably owing to the use of an iron ore with too much phosphorus in it.

If the use of steel is for the cutting edge is a yardstick then neither of the knife blades examined here are top quality, although the way they have been made, as well as the choice of materials, hardly suggests poor quality either. Both knives can perhaps be best judged as medium quality products of an industry which was probably much more advanced during the Iron Age than it is generally given credit for.

Figures

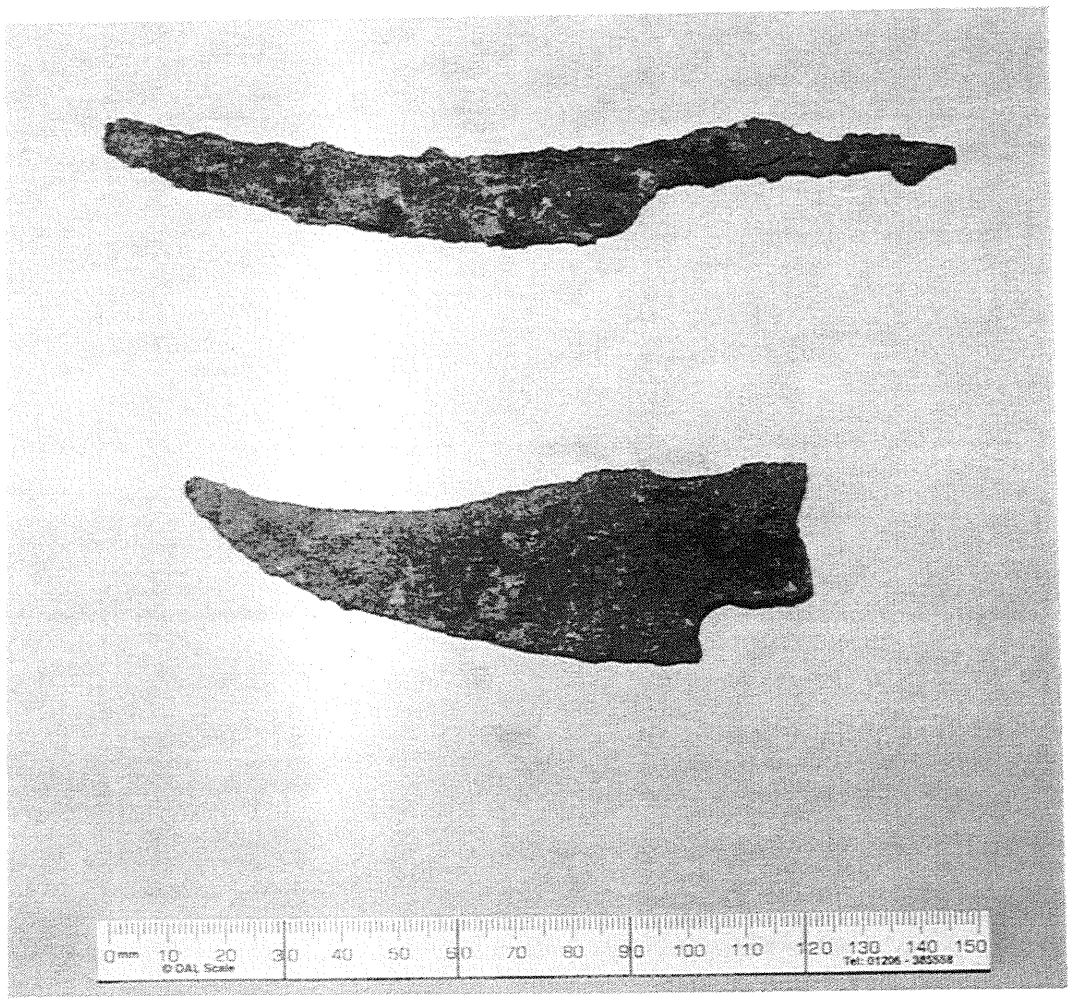

Fig 1: The two Iron Age knives from Abington Park (small finds 101 and 104).

Fig 2: X-radiographs of the two Abington Park Iron Age knives (contact prints).

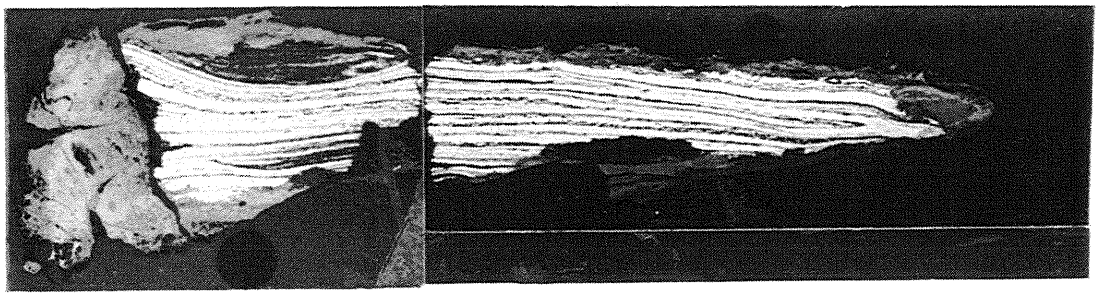

Fig 3: Photomacrographs of the two sections from the single-edged knife (combined as one composite macrograph). Magnification x 8; etched with 2% nital.

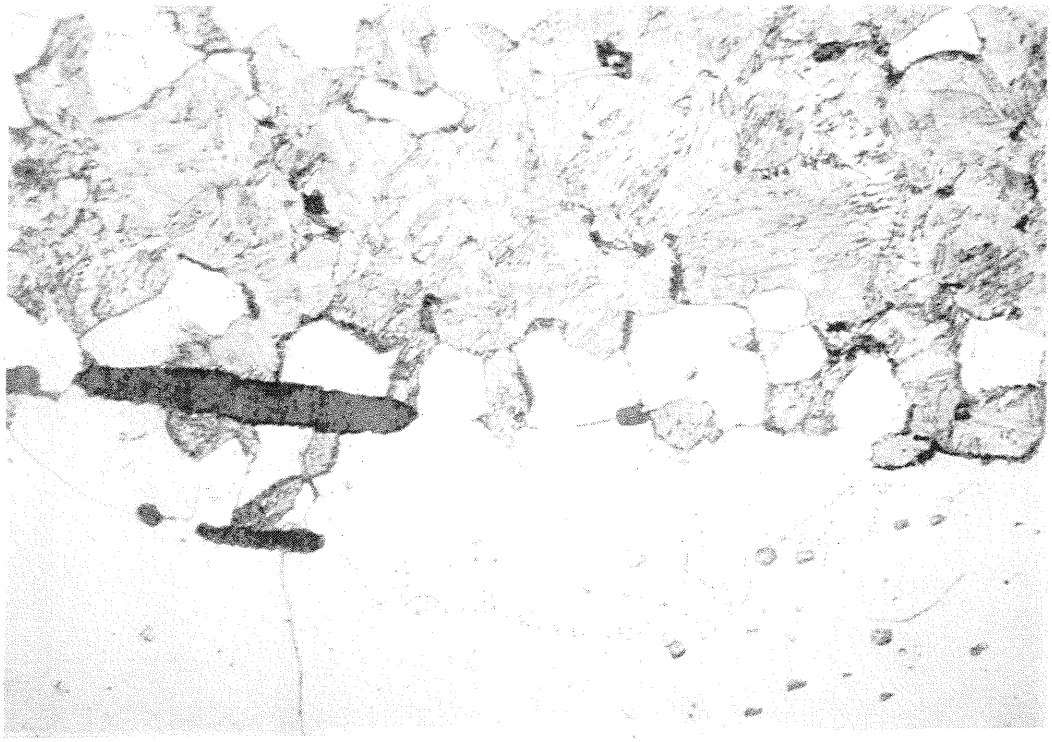

Fig 4: Photomicrograph showing the martensitic structure of one narrow, medium carbon steely striation plus part of adjacent large grained ferritic band. Magnification x 1000; etched with 2% nital.

Fig 5: Photomicrograph of part of the banded structure in the section (HM 26A) from the back part of the single-edged knife. Magnification x 50; etched with 2% nital.

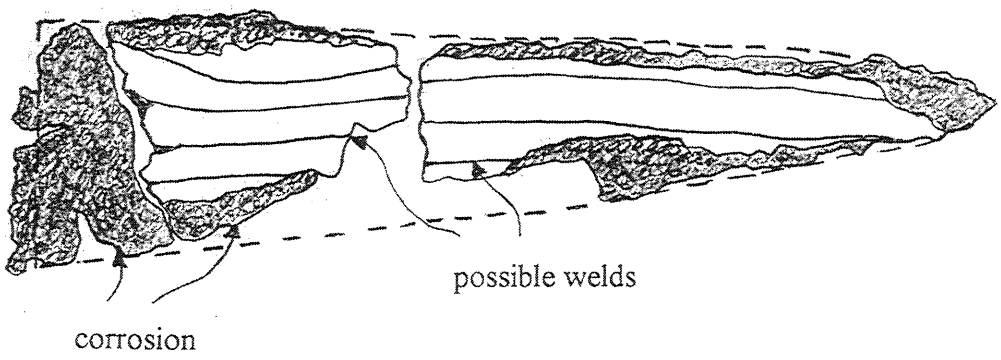

Fig 6: Diagram to show the possible layered structure of the single-edged knife.

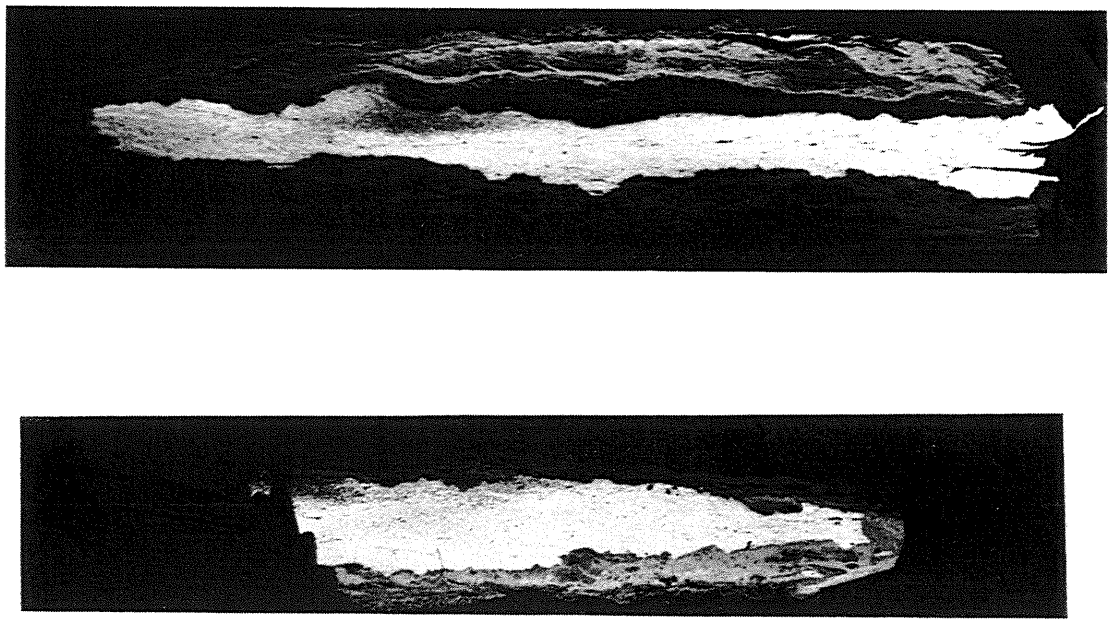

Fig 7: Photomacrographs of the two sections from the two-edged knife. Magnification x 8; etched with 2% nital.

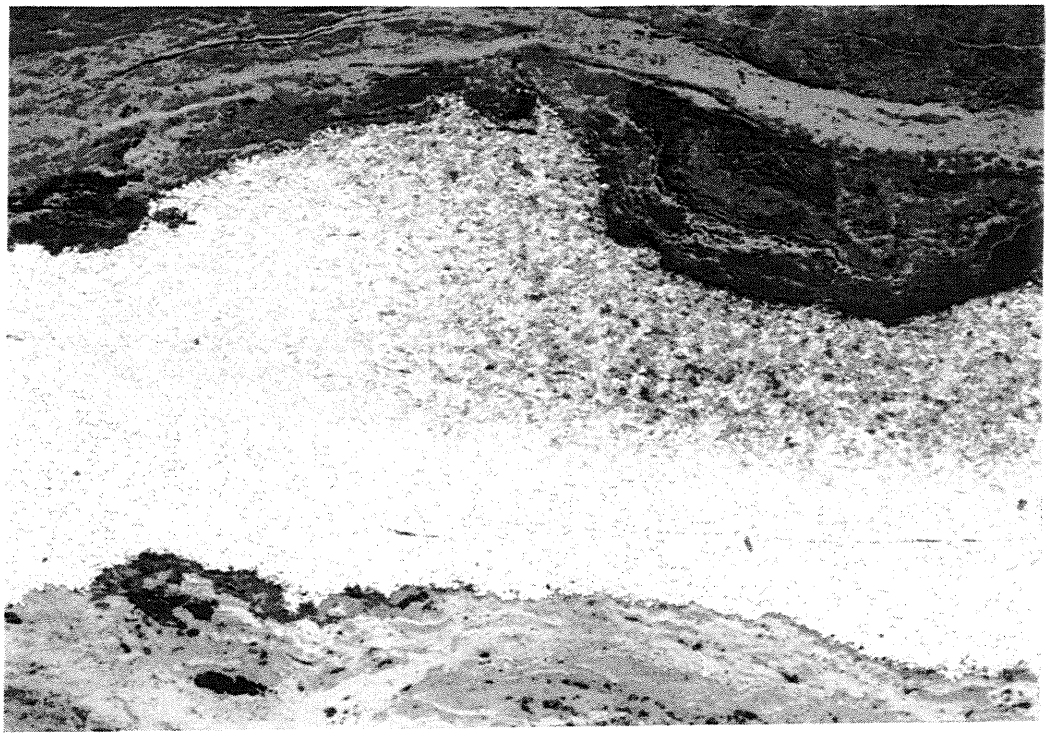

Fig 8: Photomicrograph of the two-edged knife showing a higher carbon patch and the low carbon iron of the surrounding area. Magnification x 50; etched with 2% nital.

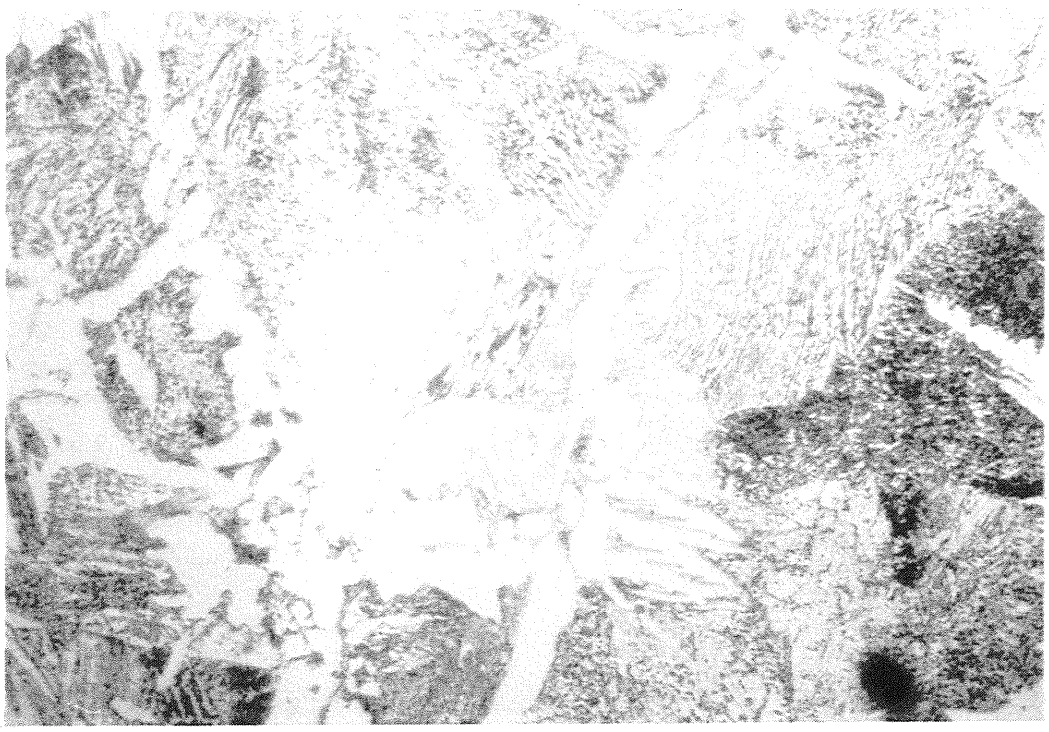

Fig 9: Photomicrograph showing the widmanstätten structure and spheroidised pearlite of the of the same higher carbon area. Magnification x 1000; etched with 2% nital.

APPENDIX F. ENVIRONMENTAL REMAINS.

By James Rackham.

Introduction

During excavations by the Cambridge Archaeology Field Unit in 1997 and 1998 a series of fifteen samples were taken from a number of pits, and a single post-hole, of early Iron Age and Iron Age date immediately south of the River Granta at Abington Park, Cambridgeshire. The samples were subsequently processed by the CAFU following their normal processing procedures and the flots submitted to the Environmental Archaeology Consultancy for assessment and selective post-excavation analysis.

Table 1. List of samples whose flots were submitted for assessment

site	sample	trench	context	feature	vol. in l.	fill	date
ABG AP97	1	30	13	pit 14	no rec.	primary fill	IA
ABG AP97	2	30	10	pit 26	no rec.	secondary fill	IA
ABG AP97	4	30	13	pit 14	no rec.	primary fill	IA
ABG AP97	5	30	15	pit 17	no rec.	primary fill	IA
ABG AP97	no number	not known	40	pit ~~39~~ 41	no rec.	not recorded	not dated
ABG AP98	1		582	pit 583	20	primary fill	EIA
ABG AP98	2		594	ph 595	10	primary fill	IA? no finds
ABG AP98	3		601	pit 603	20	backfill	EIA
ABG AP98	4		602	pit 603	20	intentional back-fill	EIA
ABG AP98	5		620	pit 623	10	tertiary fill	EIA
ABG AP98	7		666	pit 667	20	single fill	EIA
ABG AP98	8		639	pit 641	20	seconadry fill	EIA
ABG AP98	9		715	pit 716	20	tertiary fill	EIA?
ABG AP98	10		658	pit 633	10	tertiary fill	EIA
ABG AP98	11		721	pit 717	10	tertiary fill	IA? no finds

The dried flot 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 an assessment sheet. The flot was then re-bagged. After assessment a selection was made of four samples for detailed botanical analysis and six samples for molluscan analysis. The selection of these samples for further study was based upon the quantity and diversity of botanical and molluscan remains in them. The remaining samples, although summarised below, yielded identifiable assemblages of plant and invertebrate remains of such low diversity or limited size that it was not considered justified to take these further than the assessment.

Results

In general the flots were poor in terms of identifiable material. Charcoal was abundant only in context [715] and many of the flots included modern or recent rootlets, some uncharred seeds and earthworm egg capsules. These are all potentially of recent origin and, since no 'waterlogged'

remains were evident in the flots, must be treated as intrusive. Another probable intrusive element are the shells of the snail *Cecilioides acicula*, the blind snail. This species burrows in the soil and is generally collected live from rabbit burrows or mole hills and can occur to depths of well over one metre. It occurs in all the samples (see Table 2) and is almost exclusively responsible for the snail frequency in most of these. The species is believed to be a post-Roman introduction (Evans 1972) and in the context of this site where all features are believed to be early Iron Age or Iron Age must postdate the pit fills in which they were found. Occasional modern insects such as ants and beetles were present but may have moved into the deposits during excavation or become incorporated during the processing. Due to the general level of biological disturbance and intrusion only two lines of evidence were followed, those samples in which charred remains or snails other than *C. acicula* were relatively abundant were considered suitable for more detailed post-excavation study. The assessment identified four samples as containing small quantities of identifiable charred plant material, samples 1, 2 and 4 from the 1997 excavations and sample 9 from the 1998 season. In the remaining samples small quantities of charred cereal grain and seed in very poor condition were considered unlikely to yield any information of value in the interpretation of the site. Six samples from the 1998 excavations in which snails other than *C. acicula* were present were also quantified. All these samples are marked with a $ in Table 2.

Table 2. Summary of the environmental material in the flots

site	sample	context	flot vol.	char-coal *	charred grain *	charred seed #	snails #	bone *	comments
ABG AP97	1	13	5	2	2 $	1/1 $	2/1		cf *Hordeum* sp; cf *Triticum* sp.
ABG AP97	2	10	40	3	1 $	1/1 $	3/1		*Hordeum* sp.
ABG AP97	4	13	6	2	3 $		2/1	1	*Hordeum* sp, *Triticum* sp., frog/toad
ABG AP97	5	15	10	1	1	1/1	3/1	2	sheep size, frog/toad, rodent
ABG AP97	-	40	2				2/1		
ABG AP98	1	582	4	2	1	1/1	3/1		
ABG AP98	2	594	8	3			3/1		
ABG AP98	3	601	3	2	2	1/1	3/1		cf *Triticum* sp; aquatic snails
ABG AP98	4	602	2	2	1	1/2	2/1		cf *Hordeum* sp.
ABG AP98	5	620	3	2	2		3/2 $	1	frog/toad
ABG AP98	7	666	7	2	1	1/1	3/2 $	1	frog/toad
ABG AP98	8	639	10	2	1	1/1	4/2 $		cf *Hordeum* sp.
ABG AP98	9	715	16	4	4 $	3/3 $	3/3 $		*Hordeum* sp; *Triticum* sp.; *Avena* sp; chaff; grasses; aquatic snail
ABG AP98	10	658	5	1	1	2/2	3/2 $		aquatic snails; ostracods
ABG AP98	11	721	2	1	1	1/1	2/2 $		cf *Triticum* sp.

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

frequency/diversity; the latter recorded as follows: 1=1-3; 2=4-10; 3=11-25; 4=26-50 taxa

$ samples taken to post-excavation analysis

Charred plant remains

Charcoal was present in all but one of the samples, but this was generally composed of very small fragments and was only present in quantity in pits [26] and [716], and post-hole [595]. Very little of this is likely to be identifiable, although two or three fragments from context [658] may be identifiable to genus.

Charred cereal grains were present in most samples (Table 2), although only in contexts [13] and [715] were these in any abundance (Table 3). They were extremely poorly preserved in all the samples, with the majority not being identifiable to species. Only in four samples was the condition and frequency of the cereals and other charred seeds sufficient to warrant further work.

The Charred Plant Remains from pits 14, 26 and 716

(John Giorgi)

The charred plant remains from four samples were selected from three early Iron Age and Iron Age pits for detailed archaebotanical study: samples <1> and <4> from the primary fill [13] of Pit [14]; sample <2> from the secondary fill [10] of Pit [26] and sample <9> from the tertiary fill [715] of Pit [716]. The flots from each sample were separated by size through a stack of sieves for ease of sorting. The charred plant remains (with the exception of charcoal and cereal fragments smaller than 1mm) were sorted from the flots and a binocular microscope was used for the identification of these remains using modern and charred reference material and reference manuals. All the sorted and identifiable plant items were quantified (Table 3).

The four samples all produced plant remains although most of the material was recovered from Pit [716] (sample <9>). The charred material was poorly preserved and fragmentary and most of the remains could not be identified. Cereal grains, mainly represented by fragments, made up over 80% of the quantified material. A few cereal chaff fragments and a small number of wild seeds (virtually all from Pit [716]) were also recovered. Flecks and small fragments of charcoal were also present in the samples, with large quantities in Pit [26] and Pit [716]. A small number of uncharred seeds were found in the samples with goosefoots/oraches etc. (*Chenopodium/Atriplex* spp.), medick/trefoil (*Medicago/ Trifolium* spp.) and stitchworts (*Stellaria* spp.) being well represented. These seeds, however, are probably intrusive (see above).

Cereals

The vast majority of the cereal grains were too poorly preserved to be identified to either genus or species. A small number of grains, however, were sufficiently preserved to be identified as wheat (*Triticum* spp.) and barley (*Hordeum sativum*) grains. Two of the wheat grains were tentatively identified as the glume-based cereal, emmer (*Triticum* cf. *dicoccum*). Wheats are difficult to identify on the basis of grain morphology alone although diagnostic chaff fragments often allow identification to species level. The few wheat glume bases, spikelet bases and rachis fragments from Pit fill [715] were, however, too poorly preserved to be identified to species and thus could not confirm the presence of emmer; for instance, no surface detail remained on the glume bases. The barley grains included a number of twisted and hulled grains indicating the presence of six-row hulled barley. One oat (*Avena* sp.) grain was recovered although the absence of oat floret bases meant that it was not possible to establish whether this was from a cultivated or wild species. Other cereal fragments larger than 1mm were counted but were too poorly preserved to

be identified, although it is likely that a large number of these are fragmented wheat or barley grains.

Wild plants

The remaining botanical material in the charred assemblages came from a range of wild plants although many of the seeds were poorly preserved and could not be identified. The following ecological information is taken from *The Flora of the British Isles* (Clapham *et al* 1987).

Table 3: The Charred Plant remains from early Iron Age and Iron Age pits at Abington Park

	Feature	Pit 14	Pit14	Pit 26	Pit 716	*total*
	context	13	13	10	715	
	sample	1	4	2	9	
	wt.soil (kg)	?	?	?	20	
	flot size (ml)	5	6	40	16	
Cereal grains						
Triticum cf. *dicoccum*	?emmer wheat		1		2	*3*
Triticum spp.	wheat		2		2	*4*
cf. *Triticum* spp.	?wheat	2			2	*4*
Hordeum sativum L.	barley	4	1	1	12	*18*
cf. *H. sativum*	?barley	1	3		2	*6*
Avena/Hordeum sp.	oat/barley				1	*1*
Avena sp.	oat				1	*1*
indeterminate cereals	indet. cereals >1mm	34	76	3	266	*379*
indeterminate cereals	indet. cereals <1mm	++	++		+++	
Cereal chaff						
Triticum spp.	wheat spikelet bases				2	*2*
Triticum spp.	wheat glume bases				4	*4*
Triticum spp.	wheat rachis frags				2	*2*
Other plants						
Chenopodium/Atriplex spp.	goosefoots/oraches etc.				6	*6*
Medicago/Trifolium spp.	medick/clover				2	*2*
Silene sp.	campion/catchfly				1	*1*
Stellaria media gp.	chickweed				1	*1*
Polygonum aviculare agg.	knotgrass				7	*7*
Rumex acetosella gp.	sheeps sorrel		1		13	*14*
Polygonaceae	-				4	*4*
cf. *Valerianella* sp.	?cornsalad				1	*1*
Bromus mollis/secalinus	rye-broom/lop-grass				5	*5*
Bromus spp.	bromes	2	1		23	*26*
Avena/Bromus sp.	oat/brome				1	*1*
Poaceae	indet. grasses				19	*19*
indet. seeds		+			++	
charcoal frags (small)		++	++	+++	++++	
total number plant items		43	85	4	379	*511*

The amounts of unsorted small cereal grain fragments (below 1mm) and charcoal were estimated using the following code: + = 1-10; ++ = 11-50; +++ = 51-150; ++++ = >151 items.

Most of the charred weed seeds were from plants of disturbed (including arable) ground and waste places, for example, knotgrass (*Polygonum aviculare* agg), chickweed (*Stellaria media* gp.) and ?cornsalad (cf. *Valerianella* sp.). Sheeps sorrel (*Rumex acetosella* agg.) grows as an arable weed and is common on acidic but infrequent on calcareous soils although it is also found on heaths and in grassland habitats. The grass, brome (*Bromus* spp.) was well represented with several intact seeds being identified as rye-broom/lop grass (*Bromus mollis/secalinus*). Rye-broom is an arable weed, usually among winter wheat while lop grass is found in meadows, waste places, dunes, banks and cliffs. *Bromus* species that grow as arable weeds are common in charred grain assemblages as they are of a similar size to cereal grains and thus difficult to separate out during sieving. It has been suggested that when they are found in large quantities in Iron Age grain deposits they may have been used for food (Jones 1981, 108).

Discussion

The quantity and quality of the charred plant assemblages allows little detailed comment to be made on crop-husbandry practices. The range of crops represented on the site, however, is not unusual for this period. Thus, barley and emmer have been recovered from other Iron Age sites in Britain (Greig 1991, 306); for example, emmer is recorded from Iron Age/Roman deposits at Abington Piggots (Godwin 1975, 411) while both cereals were found further afield in late Iron Age deposits at Stenigot Reservoir in the Lincolnshire Wolds (Giorgi 1997). Emmer, however, is generally replaced by spelt (*T. spelta*) as the best represented glume wheat along with barley by this period (van der Veen 1992,77).

Barley may grow in a wide range of soils except where the drainage is poor or the pH is below 6 (Jones 1981, 105) while emmer can also be cultivated in a variety of soils and climatic conditions (Barker 1985, 44). Emmer produces good quality flour with a higher protein content than modern bread wheat (Jones 1981, 106). The wheats may have been used for unleavened bread, porridge or gruel or added to stews or soups. Barley may have been used for human and animal food or in brewing (Renfrew 1985, 15). It was not possible to establish whether the oat was from a cultivated or wild species. Cultivated oat has been found on Iron Age sites although rarely in abundance and are often considered to represent weeds of other cereals rather than crops grown in their own right.

Animal Bone

A few fragments of small vertebrate bone were present in four of the flots (Table 2). These were all amphibian, except for unidentified rodent and domestic animal bones in pit [17] (sample <5>). Only pit [17] produced any domestic animal bone. This was eroded and very brittle, and although not identifiable to species, included rib fragments of small ungulate, probably sheep.

Molluscs

The six samples in which more than five mollusc taxa were noted during the assessment were quantified, primarily to clarify the initial ecological interpretations and afford a data set for comparison with other dated sites in the area. The abundance of *C. acicula* in the samples is apparent (se above and Table 4) and none of the samples was rich in other taxa.

Despite the small sample size the dominance, aside from the blind snail, of a suite of species characteristic of open country and grasslands (Evans 1972) is apparent, with *Pupilla muscorum*, *Vallonia costata*, *Vertigo pygmaea*, *Helicella itala* and *Helicella* sp. accounting for the majority of the shells. The only other taxa to occur in any frequency is the catholic species *Hygromia hispida*, found in a variety of habitats, although most frequently in meadows or marsh. There is little indication of shaded habitats although a few shells of *Carychium tridentatum*, a species characteristic of woodland but also found at the well shaded base of long grass, perhaps suggests ungrazed vegetation.

Table 4. Frequency of molluscs from early Iron Age pits 623, 667, 641, 716, 633 and 717

pit	623	667	641	716	633	717	general habitat
context	620	666	639	715	658	721	
sample	5	7	8	9	10	11	
sample size in l.	10	20	20	20	10	10	
Cecilioides acicula	486	449	1210	107	228	178	open country/grassland
Pupilla muscorum	3	5	14	1	2	3	open country/grassland
Vallonia costata	5	3	18	2	3	1	open country/grassland
Vallonia sp.	2	3	16		2	2	open country/grassland
Vertigo pygmaea					2		open country/grassland
Helicella itala			4				open country/grassland
Helicella caperata				2			open country/grassland
Helicella sp.	2	2	7	4		2	open country/grassland
Hygromia hispida	2	2	10	3	2		catholic
Hygromia striolata			1		1		damp (synanthropic)
Cochlicopa sp.				1			catholic
Carychium tridentatum				1		3	woodland/long grass
Carychium sp.			1				woodland/long grass
Zonitoides		1					
Vitrina cf pelucida						1	catholic
Lymnaea truncatula				1	1		ditch/damp/stream edge
Valvata macrostoma					1		marsh/ditch
Planorbis leucostoma					4		marsh/ponds that dry up
indet.		3	10	3	2	2	
TOTAL	***500***	***468***	***1291***	***125***	***248***	***192***	

(habitats references : Evans 1972; Ellis 1969; Cameron and Redfern 1976; Macan 1976)

Pit 633 has an aquatic element, with *Lymnaea truncatula*, *Valvata macrostoma* and *Planorbis leucostoma* suggesting a wet ditch, marsh or seasonal pond environment (Macan 1976). This pit is one of the closest to the River Granta to the north and the occurrence of these shells and valves of ostracods, freshwater crustaceans, may indicate local seasonal flooding introducing the molluscs or creating a suitable habitat for colonisation. There is also a possibility that the shells could have been introduced into the pit with vegetation cut from ditches or marshes.

Discussion

Conclusions from this work must be limited. The botanical evidence shows a poor representation of crop-processing debris in the samples and suggests that the crops had been cleaned elsewhere, either before their arrival, or in an unexcavated area, of the site. Some of the weed seeds,

however, may have been imported onto the site with the cereals, although they can throw little light on crop husbandry activities. For instance, sheeps sorrel could support the cultivation of acidic soils although these plants also grow in grassland environments. Indeed, the quantity and quality of the recovered material is insufficient for any firm conclusions to be drawn on the nature of the site as to whether it was a producer or consumer settlement. Certainly, the predominance of cleaned cereal grains in all the samples suggest that the final stages of crop-processing produced the remains, which may have become accidentally charred during drying prior to milling or spillages of cleaned grain used in soups or stews. This is more consistent with a domestic occupation area than one in which processing or agricultural activities were taking place.

The molluscan evidence appears to indicate that the site lies in an open country environment, and a meadow grassland habitat on the southern floodplain of the River Granta would be consistent with this limited assemblage. The archaeology recorded alluvium at the top of the stratigraphic sequence in the lowest northern part of the site adjacent to the river and it is likely that this seasonal flooding, and its associated wet ground, is responsible for the aquatic elements in one of the most northern pits on the site.

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